BAR CODE MEDICATION ADMINISTRATION (BCMA)

BCMA Backup System (BCBU)

INSTALLATION GUIDE

PSB*2*17

Version 2.0
August 2003

Acknowledgments:

Revision History

The table below lists changes made since the initial release of this manual. Update an existing manual with the Change Pages document or print out the entire updated manual.

Note: Some pages in the Change Pages document are unchanged, but provided for two-sided copying only. Only changed pages include the patch number and revision date in the page footer.

Date	Revised Pages	Patch Number	Description
08/03			Original Released Bar Code Medication Administration Backup System (BCBU) Installation Guide.

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BCMA V. 2.0 and This Guide

Benefits of BCMA PSB*2*17

The Veterans Health Information Systems and Architecture (V*IST*A) Bar Code Medication Administration Backup System (BCBU) patch PSB*2*17 software will provide a Class I solution to the BCMA Contingency IRA #20020403. This plan reflects the intent of VHA Directive #6210, The Automated Information Systems (AIS) Security, which states that all facilities are responsible for the development, maintenance, and annual testing of individual AIS contingency. This software maintains a current copy on the designated workstation, of all the inpatient pharmacy activities including the inpatient medication orders, medication administration and allergies, that are included on a Pharmacy Medication Administration Record (MAR).

The Bar Code Medication Administration Backup System (BCBU) patch PSB*2*17 will interface with the BCMA V*IST*A product to provide a real time backup of all inpatient medication activities on a designated workstation(s). Designated workstation(s) will contain current information regarding inpatient medication orders (Unit Dose and IV), medication administration record (MAR), medication administration history (MAH) and patient allergies. Workstation(s) are updated using the VA Health Level (HL7) package. These workstation(s) are available for use according to local policies concerning V*IST*A, BCMA or network outages.

Benefits of This Guide

The Veterans Health Information Systems and Architecture (V*IST*A) Bar Code Medication Administration Backup System (BCBU) Installation for patch PSB*2*17 provides detailed instructions required for installing and implementing this new software. Additional manuals are available with instructions for installing and implementing the new software on either a Linux or Cachè workstation environment.

Our Target Audience

This guide was developed for the following individuals, who are responsible for the installation, maintenance, support and use of the package.

> Information Resources Management (IRM)
>
> Clinical Application Coordinator (CAC) – called Applications Package Coordinator (ADPAC) at some sites

National **V***IST***A** Support (NVS)

Independent Verification and Validation (IV&V)

Other Sources of Information

Refer to the Web sites listed below when you want to receive more background and technical information about BCMA V.2.0.

Background/Technical Information

From your Intranet, enter http://vaww.**V***IST***A**.med.va.gov/bcma in the Address field to access the BCMA Main Web page. The Installation Guide is available in MS Word (.doc) format and the Portable Document Finder (.PDF).

This Manual Includes

Security Information: This section contains information regarding the mail group, alerts, and file security associated with the Bar Code Medication Administration Backup System (BCBU) patch PSB*2*17 software.

Pre-Installation Information: This section provides information needed prior to installing the Bar Code Medication Administration Backup System (BCBU) patch PSB*2*17 software.

Installation Information: This section contains instructions and examples of the Bar Code Medication Administration Backup System (BCBU) patch PSB*2*17 software.

Technical Information: This section provides information on protocols involved in the Bar Code Medication Administration Backup System (BCBU) patch PSB*2*17 software.

Conventions Used in This Guide

Before installing patch PSB*2*17, review this section to learn the many conventions used throughout this guide.

Keyboard Responses: Keys provided in **boldface**, within the steps, help you quickly identify what to press on your keyboard to perform an action. See the examples provided below.

➢ **Within the Steps:** At the "Select Kernel Installation & Distribution System Option" prompt, type **INSTALL**, and then press **ENTER**.

➢ **Within Screen Captures:** Text in **boldface**, centered between arrows on

screen captures, identifies the key you must press for the system to capture your response or to move the cursor to the next field. See the following example.

DEVICE FOR QUEUED JOB OUTPUT: <**Enter**>

Mouse Responses: Buttons provided in **boldface**, within the steps, indicate what you should click on your computer screen using the mouse. For example, when you see **NEXT, YES/NO,** or **OK** in the steps, click the appropriate button on your computer screen.

User Responses: Information presented in **boldface**, within steps or shaded screen captures, indicate what you should "type" (enter) onto your computer screen. See the examples provided below.

> ➢ **Within the Steps**: At the "Select OPTION NAME" prompt, type XPD MAIN and then press ENTER.
> ➢ **Within Screen Captures**: See the following example.

RESCHEDULING FREQUENCY: **1M**

Screen Captures: Provide "shaded" examples of what you will see on your computer screen, and possible user responses.

Notes: Provided within the steps, describe exceptions or special cases about the information presented. They reflect the experience of our Staff, Developers, and Testers.

Menu Options: When provided in *italics*, identifies a menu option. When provided in **boldface**, ALL CAPS, identifies the letters that you should type onto your computer screen, before pressing **ENTER**. The system then goes directly to the menu option. (**Note:** The letters do *not* have to be entered as capital letters, even though they are provided within the steps in this format.) See the examples provided below.

> ➤ **Italicized:** Use the Kernel *First Line Routine Print* option to print a list containing the first line of every PSB routine.
> ➤ **Capitalized:** At the "TaskMan Management Option:" prompt, type **Schedule**/Unscheduled Options, and then press **ENTER.**

Locating Detailed Listings

You can obtain and print listings about patch PSB*2*17 routines, and Data Dictionaries using the information provided below.

Routines

Use the Kernel routine XINDEX to produce detailed listings of routines. Use the Kernel First Line Routine Print option to print a list containing the first line of every ALPB routine.

Data Dictionaries

The Data Dictionaries (DDs) are included in the on-line documentation for this software application. You can use the VA FileMan List File Attributes option, under Data Dictionary Utilities option, to print the Dictionaries. Journaling is not recommended for the ALPB global.

Interface Software

The interface software is HL7. This will transmit the pharmacy data to the designated workstation.

Alerts

The mail group, PSB BCBU ERRORS, will receive all alerts.

BCMA Menus

Bar Code Medication Administration Backup System (BCBU) patch PSB*2*17 software exports two main menus. The options for each menu are listed in this section.

> BCMA Backup System (Wrkstn)
> [PSB BCBU WRKSTN MAIN]
> BCMA Backup System (V*IST*A)
> [PSB BCBU V*IST*A MAIN]

BCMA Backup System (Wrkstn)
This menu includes the following options:
List/Display Orders

       Print MAR for All Wards

       Print MAR for Selected Patient

       Print MAR for Selected Ward

       Print Blank MAR for Selected Patient

       List of Wards in BCMA Backup File

       BCMA Backup System Management Menu

          ➢ BCMA Backup System Error Log

BCMA Backup System (V*IST*A)

This menu includes the following options:

    Associate Backup Workstations with a Division

    Default Workstation Initialize

    Divisional Worstation Initialize

    Initialize a Backup Workstation with BCMA Users

    Single Patient Init

Security Information

Mail Group	The PSB BCBU Errors Mail Group is used to notify responsible users of potential problems with sending information to the Contingency Workstation(s). Members of this group should include the staff that monitors the BCMA Backup System.
Remote Systems	The workstation where the software resides is the only remote system that will receive any data.
Archiving/Purging	The product purges itself and only keeps active inpatient data. The journal files are flipped and purged nightly so disk space is not consumed by journaling.
Contingency Planning	This contingency plan software can be used if there is a **V**_IST_**A** outage. The sites can use the data stored on the workstations using the outputs on the menu supplied.
Menus	There are two menus for use with this package, BCMA Backup System (Wrkstn) and BCMA Backup System (**V**_IST_**A**). The BCMA Backup System Management Menu is under the first menu and requires a Security Key as described below.
Security Keys	The BCMA Backup System Management Menu is secured by the security key, PSB BUMGR and MUST be assigned to the designated IRM personnel who currently manages the system for total access to the Bar Code Medication Administration Backup System patch (BCBU) PSB*2*17.
References	Kernel Systems Manual V 8.0 Kernel Toolkit V 7.3 VA FileMan V 22.0 MailMan V 8.0 Health Level Seven (HL7) V 1.6

Pre-Installation Information

Recommended Users

Information Resource Management (IRM) Staff is recommended for installing, implementing and supporting the Bar Code Medication Administration Backup System (BCBU) PSB*2*17. IRM, Pharmacy and Nursing staff must coordinate the implementation of the setup tasks after the package is installed.

V*IST*A Operating System and Performance Capacity

V*IST*A Bar Code Medication Administration Backup System (BCBU) patch PSB*2*17 currently runs on the standard hardware platforms used by the Department of Veterans Affairs Health Care System facilities. These hardware platforms consist of standard or upgraded Alpha 4100, ES40 or ES45 clusters, and run either DSM on VMS, Cache/VMS, Cache/NT or CacheXP. There are no significant changes in the performance capacity of the **V*IST*A** operating system once the **V*IST*A** Bar Code Medication Administration Backup System (BCBU) patch PSB*2*17 has been installed. The software application should not create any appreciable global growth or network transmission problems. There are no memory constraints.

Central Processing Unit (CPU) Requirements

The following workstation configuration is recommended for installing and running the **V*IST*A** Bar Code Medication Administration Backup System (BCBU) patch PSB*2*17.

Sites previously using the New Jersey Class III package should be able to use current workstations and Caché license.

       Hardware
              1-2 Ghz CPU
              256-512 Mb RAM
              20 Gb hard drive
              Monitor
              Printer
       Software
              Microsoft Windows NT, Windows 2000 or Windows 98 with Intersystems Cache 4.1.4 (3.2.1) 20 user License

or

RedHat Linux 8.0 with Greystone GT.M

Test Sites

V*IST***A** BCBU PSB*2*17 software was tested at the following VA Sites and platforms prior to being released.

  Bay Pines VA Medical Center, Florida

  New Jersey Health Care System

  San Francisco VA Medical Center, California

  Connecticutt Health Care System – West Haven

  VA Heartland West – VISN 15 Kansas City, Missouri

  VA Heartland East – VISN 15 St. Louis, Missouri

  Bath VA Medical Center, New York

  Fayetteville VA Medical Center, North Carolina

  Martinez VA Medical Center, California

  Miami VA Medical Center, Florida

  Dublin VA Medical Center, Georgia

Minimum Required Packages

Before installing BCBU PSB*2*17 make sure that your **V***IST***A** system includes the following Department of Veterans Affairs (VA) software packages and versions (those listed or higher).

Package	Minimum Version Needed
Kernel	8.0
VA FileMan	22.0
VA MailMan	8.0
Health Level Seven (HL7)	1.6
Pharmacy Inpatient Medications	5.0
Bar Code Med Admin (BCMA)	2.0

Pre-Installation Information

Installation Time Estimates	V*IST*A Bar Code Medication Administration Backup System (BCBU) patch PSB*2*17 installation time is less than 2 minutes during off peak hours. The time for workstation setup is approximately 30 minutes
────────────────── IMPORTANT: You should install and test BCBU PSB*2*17 in your test accounts BEFORE installing in your production accounts. ──────────────────	

Required Patches	Before installing PSB*2*17, make sure that the following released patches are installed.
	
	Inpatient Medications V5.0
	     PSJ*5*102
	
	Bar Code Medication Administration V2.0
	     PSB*2*18
	     PSB*2*6
	
	Health Level Seven V1.6
	     HL*1.6*96
	
	V*IST*A Kernel
	     XU*8.0*313

Users on the System	Users may remain on the system; however, the V*IST*A Bar Code Medication Administration Backup System (BCBU) patch PSB*2*17 installation should be done during off peak hours when minimal Pharmacy activity is occurring.
Options Out of Order	The options, INPATIENT ORDER ENTRY [PSJ OE] and NON-VERIFIED/PENDING ORDERS [PSJU VBW] are to be placed out of order during installation.
Namespace	V*IST*A Bar Code Medication Administration Backup System (BCBU) patch PSB*2*17 routine namespace is ALPB. The options/protocols/templates/parameters and keys use the PSB namespace. Files are distributed under the PSB numberspace, but use ALPB global namespace..
Data Dictionary Changes	There are no changes made to the Data Dictionaries, but two new files have been added. These files are located on both the workstation and the V*IST*A server, but are only populated on the workstation.

Pre-Installation Information

	^ALPB(53.7, BCMA Backup Data
	^ALPB(53.71, BCMA Backup Parameters

Journaling is not recommended for the ALPB global.

Resource Requirements

This section summarizes the (approximate) number of resources required to install BCMA V. 2.0.

Routines	26
Globals	1 (^ALPB)
Files	2 (53.7, 53.71)

^ALPB Size   Backup data = 268,288 bytes
                                   (131 blocks) per order

Note: Population of the ALPB global will only occur on the workstation, there is no global growth on the V*IST*A server. ALPB global size estimate was acquired by dividing the number of blocks consumed by the total number of orders in file 53.7. This results in the number of blocks per order which is multiplied by 2048, which is the number of bytes per block in Cache.

FTEE Support	.2
FTEE Maintenance	.2

Printers

Your site should provide dedicated printers for each of the contingency workstations, which would allow printing of the MAR or MAH if the network was down. The printer needs to have the capability to print 132 characters per line.

Routines Installed

Review the listing below to learn the routines installed on your site's V*IST*A Server during the installation of patch PSB*2*17. The first line of each routine briefly describes its general function.

NOTE: You can use the Kernel First Line Routine Print option to print a list containing the first line of each ALPB routines.

Pre-Installation Information

BCMA PSB*2*17 Routines Installed on to V*IST*A Server

ALPBBK   value = 6214167
ALPBCBU   value = 1637834
ALPBELOG   value = 6391337
ALPBFRM1   value = 9887439
ALPBFRM2   value = 8886579
ALPBFRMU   value = 4053521
ALPBGEN   value = 10423241
ALPBGEN1   value = 8591971
ALPBGEN2   value = 2679718
ALPBHL1   value = 14492515
ALPBHL1U   value = 12048992
ALPBIN   value = 4105691
ALPBIND   value = 5809117
ALPBINP   value = 9416944
ALPBPALL   value = 6006540
ALPBPARM   value = 8937865
ALPBPPAT   value = 5702674
ALPBPWRD   value = 7025105
ALPBSP1   value = 4545482
ALPBSP2   value = 845669
ALPBSPAT   value = 2404489
ALPBSWRD   value = 5435921
ALPBUTL   value = 9642997
ALPBUTL1   value = 6143314
ALPBUTL2   value = 1954969
ALPBUTL3   value = 3052806
PSBML   value = 19151889

Installation Information

VISTA Server Installation Instructions	VISTA Bar Code Medication Administration Backup System (BCBU) patch PSB*2*17 distribution is by using VA MailMan. An example of this installation is found at the end of this install guide.
PC Workstation Database Initialization	Once the PC Workstation(s) have been setup and assigned an IP address, proceed with setting up the workstation link. Create a link (node) for the PC workstation. This will be the regular transmission node. Call it "BC" and the ward. For example, if the ward is 2A the link could be called "BC 2A". Use the LINK EDIT [HL EDIT LOGIBAL LINK] option of the HL Interface menu. An example of this installation is found at the end of this install guide in the Sample PC Workstation Database Initialization Section..
MAR Reports	Various MAR reports are located at the end of this install guide under the Contingency PC Workstation Reports Section.

Please refer to two additional separate documents for additional Installation Information.

Bar Code Medication Administration Backup System (BCBU) InterSystems Cache Installation Setup	Refer to "Bar Code Medication Administration Backup System (BCBU) InterSystems Cachè Installation Setup" guide for a systematic installation of Cachè install on a PC workstation.
Bar Code Medication Administration Backup System (BCBU) Linux Installation Setup	Refer to "Bar Code Medication Administration Backup System (BCBU) Linux Installation Setup" for systematic installation of Linux on a PC workstation. This manual also includes step-by-step installation of GT/M, VISTA and Bar Code Medication Administration Backup System (BCBU) on the Linux workstation.

Sample Installation

```
VISTA>D ^XUP


Setting up programmer environment
Terminal Type set to: C-VT100

Select Kernel Installation & Distribution System Option: Installation

   1      Load a Distribution
   2      Verify Checksums in Transport Global
   3      Print Transport Global
   4      Compare Transport Global to Current System
   5      Backup a Transport Global
   6      Install Package(s)
          Restart Install of Package(s)
          Unload a Distribution
Select Installation Option: Install Package(s)
Select INSTALL NAME:   PSB*2.0*17     Loaded from Distribution
7/11/03@12:49:47    => PSB*2*17

This Distribution was loaded on Jul 11, 2003@12:49:47 with header of
PSB*2*17
   It consisted of the following Install(s):
     PSB*2.0*17

Checking Install for Package PSB*2.0*17

Install Questions for PSB*2.0*17

Incoming Files:

   53.7      BCMA BACKUP DATA

   53.71     BCMA BACKUP PARAMETERS  (including data)

Incoming Mail Groups:

Enter the Coordinator for Mail Group 'PSB BCBU ERRORS': COWNIE,KEVIN P// <ENT>
KPC      20092     COMPUTER SPECIALIST     IRM     COMPUTER SPECIALIST

Want KIDS to Rebuild Menu Trees Upon Completion of Install? YES// NO

Want KIDS to INHIBIT LOGONs during the install? YES// NO

Want to DISABLE Scheduled Options, Menu Options, and Protocols? YES// <ENT>

Enter options you wish to mark as 'Out Of Order': PSJ OE <ENT>   Inpatient
Order Entry

Enter options you wish to mark as 'Out Of Order': PSJU VBW  <ENT> Non-
Verified/Pending Orders

Enter options you wish to mark as 'Out Of Order': <ENT>
```

Sample Installation

```
Enter protocols you wish to mark as 'Out Of Order': <ENT>

Delay Install (Minutes):  (0-60): 0// <ENT>

Enter the Device you want to print the Install messages.
You can queue the install by enter a 'Q' at the device prompt.
Enter a '^' to abort the install.

DEVICE: HOME// <ENT>  TCP/IP terminal




 Install Started for PSB*2.0*17 :
               Jul 11, 2003@12:55:11

Build Distribution Date: Jul 10, 2003

 Installing Routines:
               Jul 11, 2003@12:55:12

 Installing Data Dictionaries:
               Jul 11, 2003@12:55:13

 Installing Data:
               Jul 11, 2003@12:55:13

 Installing PACKAGE COMPONENTS:

 Installing SECURITY KEY

 Installing MAIL GROUP

 Installing HL7 APPLICATION PARAMETER

 Installing PROTOCOL
  Located in the PSB (BAR CODE MED ADMIN) namespace.
  Located in the PSB (BAR CODE MED ADMIN) namespace.
  Located in the PSB (BAR CODE MED ADMIN) namespace.
  Located in the PSB (BAR CODE MED ADMIN) namespace.
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  Located in the PSB (BAR CODE MED ADMIN) namespace.
  Located in the PSB (BAR CODE MED ADMIN) namespace.
  Located in the PSB (BAR CODE MED ADMIN) namespace.
                         PSB*2.0*17
```

Sample Installation

```
 Located in the PSB (BAR CODE MED ADMIN) namespace.
 Located in the PSB (BAR CODE MED ADMIN) namespace.
 Located in the PSB (BAR CODE MED ADMIN) namespace.

Installing LIST TEMPLATE

Installing OPTION

Installing PARAMETER DEFINITION
            Jul 11, 2003@12:55:19

Updating Routine file...

Updating KIDS files...

PSB*2.0*17 Installed.
            Jul 11, 2003@12:55:19

Install Message sent #16266376
```
_____
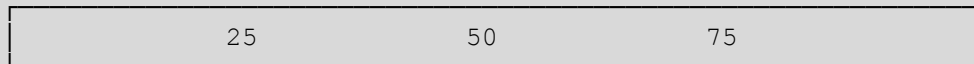
```
  100%          ┌──────────────────────────────────────────────┐
               │          25            50            75        │
Complete        └──────────────────────────────────────────────┘


Install Completed
```

Sample PC Workstation Database Initialization

When initializing the workstations, you add an entry at the HL Logical Link Node prompt for each pc workstation your site has. The name of each link should represent the actual workstation location. For example, if you have a workstation on Ward 2A, the name of the workstation should be BC 2A. Associating the name of the HL Logical Link Node with the ward where the workstation is located, will aid in locating specific workstations should a problem arise. Once you have initialized the workstation with the correct workstation location, you can update the workstation with the users from the V*IST*A system that have the [PSB GUI CONTEXT - USER] option. This initialization process will queue the activity and when complete send an alert.

On new installations, check the Parameter Value. The Parameter can be left off until the workstation is ready to be initialized. If the workstation is already running, **<u>do not</u>** turn the Parameter Value off. Use the 'General Parameter Tools' option to edit the parameter values.

```
XPAR MENU TOOLS     General Parameter Tools

  LV     List Values for a Selected Parameter
  LE     List Values for a Selected Entity
  LP     List Values for a Selected Package
  LT     List Values for a Selected Template
  EP     Edit Parameter Values
  ET     Edit Parameter Values with Template
  EK     Edit Parameter Definition Keyword

Select General Parameter Tools Option: ep Edit Parameter Values
                    --- Edit Parameter Values ---


Select PARAMETER DEFINITION NAME: PSB BKUP ONLINE

---------- Setting PSB BKUP ONLINE  for Package: BAR CODE MED ADMIN ----------
Value: YES//<ENTER>
------------------------------------------------------------------------------

Select PARAMETER DEFINITION NAME: PSB BKUP IPH      BCMA Contingency Active Pharm Order

----------- Setting PSB BKUP IPH  for Package: BAR CODE MED ADMIN -----------
Value: 15// <ENTER>
------------------------------------------------------------------------------

Select PARAMETER DEFINITION NAME: PSB BKUP MEDLG    BCMA Contingency MedLog DFT

---------- Setting PSB BKUP MEDLG  for Package: BAR CODE MED ADMIN ----------
Value: 30// <ENTER>
------------------------------------------------------------------------------
```

Continue with the Workstation setup.

```
>D ^XUP
Setting up programmer environment
Terminal Type set to: C-VT100

Select OPTION NAME: HL MAIN MENU       HL7 Main Menu
         Systems Link Monitor
         Filer and Link Management Options ...
         Message Management Options ...
         Interface Developer Options ...
         Site Parameter Edit
```

Sample PC Workstation Database Initialization

```
Select HL7 Main Menu Option: INTERFACE  Developer Options
   EA      Application Edit
   EP      Protocol Edit
   EL      Link Edit
   VI      Validate Interfaces
           Reports ...

Select Interface Developer Options Option: EL  Link Edit

Select HL LOGICAL LINK NODE: BC 2A
INSTITUTION:<ENTER> ← leave blank
DOMAIN: <ENTER>← leave blank
AUTOSTART: Enabled
QUEUE SIZE: 10
LLP TYPE: TCP
TCP/IP SERVICE TYPE: CLIENT (SENDER)
   TCP/IP ADDRESS: (workstation IP address)
    TCP/IP PORT: (10000)
ACK TIMEOUT:10              RE-TRANSMISSION ATTEMPTS: 2
READ TIMEOUT:10            EXCEED RE-TRANSMIT ACTION: restart
BLOCK SIZE: 256
STARTUP NODE: ←leave blank        PERSISTENT: NO
RETENTION: 120                    UNI-DIRECTIONAL WAIT: ←leave blank

Save the link
```

Sign out and then sign back in by doing the following:

```
>D ^XUP

Setting up programmer environment
Terminal Type set to: C-VT100

Select OPTION NAME:    PSB BCBU VISTA MAIN     BCMA Backup System (VISTA)


PSB BCBU VISTA MAIN BCMA Backup System (VISTA)
    LNK     Associate Backup Workstations with a Division
    DFT     Default Workstation Initialize
    DIV     Divisional Workstation Initialize
    USR     Initialize a Backup Workstation with BCMA Users
    PAT     Singe Patient Init

Select BCMA Backup System (VISTA) Option: LNK  Associate Backup Workstations
with a Division
Do you want all backup data to go to the same group of
backup devices regardless of the patient's division?
Enter Yes or No: YES// <ENTER>

    Select one of the following:

        A           Add a Logical Link
        D           Delete a Logical Link
```

Sample PC Workstation Database Initialization

```
OPERATION: ADD// <ENTER>  Add a Logical Link
The following DEFAULT links are associated with this package:
BC KEVC
BC SID
BC KEVINK
BC SFVA
Select HL LOGICAL LINK: BC 2A  ...Added
Select HL LOGICAL LINK: ?


    LNK    Associate Backup Workstations with a Division
    DFT    Default Workstation Initialize
    DIV    Divisional Workstation Initialize
    USR    Initialize a Backup Workstation with BCMA Users
    PAT    Singe Patient Init
```

NOTE: If you want to remove an HL7 Link from your system, make sure you use the LNK
Associate Backup Workstation with a Division option to delete the logical link association prior
to deleting the link in HL7. If this is not done, you will get undefined errors on the V*ista*A
system. It is recommended that the Workstation Initialize be queued to run during non-peak
hours. These inits may run for several hours depending on the parameter settings.

```
Select BCMA Backup System (VISTA) Option: DFT <RET> Default Workstation
Initialize
Include all workstations
Enter Yes or No? YES// NO
Select WorkStation Link : BC 2A


Selected Workstations

 BC 2A
Select WorkStation Link :
Requested Start Time: NOW// <RET> (FEB 18, 2003@14:28:13)
2624847

    LNK    Associate Backup Workstations with a Division
    DFT    Default Workstation Initialize
    DIV    Divisional Workstation Initialize
    USR    Initialize a Backup Workstation with BCMA Users
    PAT    Singe Patient Init

Select BCMA Backup System (VISTA) Option: USR  Initialize a Backup Workstation
with BCMA Users
This option searches for users that hold the option, 'PSB GUI CONTEXT - USER'
and if they are active users, transmits the information to your BCMA Backup
Workstations.
NOTE that you must have completed the step of assigning workstations to either
a single default group or by division.

Do you wish to continue? YES// <ENTER>
```

Sample PC Workstation Database Initialization

```
Do you wish to queue this init? YES//<ENTER>
Requested Start Time: NOW// <ENTER> (FEB 20, 2003@17:17:02)
TASK #: 2625005


    LNK     Associate Backup Workstations with a Division
    DFT     Default Workstation Initialize
    DIV     Divisional Workstation Initialize
    USR     Initialize a Backup Workstation with BCMA Users
    PAT     Singe Patient Init

You have PENDING ALERTS
 Enter "VA to jump to VIEW ALERTS option
Select BCMA Backup System (VISTA) Option: "VA


1.I BCBU INIT Started Feb 20, 2003@17:17:04 and finished Feb 20, 2003@17:2
 Select from 1 to 1
 or enter ?, A, I, D, F, S, P, M, R, or ^ to exit: 1
Processed Alert Number 1
 BCBU INIT Started Feb 20, 2003@17:17:04 and finished Feb 20, 2003@17:27:57.
556
```

Technical Information

Option Descriptions

PSB BCBU MANAGEMENT MENU
BCMA Backup System Management Menu

This Menu contains all Management option for the BCMA Contingency (Workstation Menu)
ITEM: PSB BCBU ERROR LOG

TYPE: menu

PSB BCBU ERROR LOG
BCMA Backup System Error Log

This option is used to view the Error Log. (Workstation Menu)

TYPE: run routine   Routine: ALPBELOG

PSB BCBU WRKSTN MAIN
This is the main menu for the BCMA Backup system -- the ward workstation containing the BCMA backup/contingency data. (Workstation Menu)

TYPE: menu
ITEM: PSB BCBU SHOW PATIENT
ITEM: PSB BCBU PRINT MAR ALL
ITEM: PSB BCBU PRINT MAR PATIENT
ITEM: PSB BCBU PRINT MAR WARD
ITEM: PSB BCBU MANAGEMENT MENU
ITEM: PSB BCBU WARD LIST
ITEM: PSB BCBU PRINT BLK MAR

PSB BCBU PRINT MAR ALL
Print MAR for All Wards

This option prints a MAR report for all wards. (Workstation Menu)

TYPE: run routine   ROUTINE: ALPBPALL

PSB BCBU PRINT MAR PATIENT
Print MAR for Selected Patient

This option prints a MAR report by individual patients. (Workstation Menu)

TYPE: run routine   ROUTINE: ALPBPPAT

PSB BCBU PRINT MAR WARD
Print MAR for Selected Ward

This option prints a MAR report by individual wards. (Workstation Menu)

TYPE: run routine   ROUTINE: ALPBPWRD

Technical Information

PSB BCBU SHOW PATIENT
Display Orders for Selected Patient

This option will display orders to the screen by individual patient.
(Workstation Menu)

TYPE: run routine   ROUTINE: ALPBSPAT

PSB BCBU SHOW WARD
Display Orders for Selected Ward

This option will display orders to the screen by Ward. (Workstation Menu)

TYPE: run routine   ROUTINE: ALPBSWRD

PSB BCBU WARD LIST
List of Wards in BCMA Backup File

This option will display all the wards available on the workstation.
(Workstation Menu)

TYPE: run routine   ROUTINE: WARDLIST^ALPBUTL

PSB BCBU PRINT BLK MAR
Print Blank Mar for Selected Patient
This option allows the user to select a patient from the BCMA contingency and
print a blank 3 or 7 day MAR. The MAR will only contain patient
 info.

TYPE: run routine   ROUTINE: ALPBBK

PSB BCBU VISTA MAIN
BCMA Backup System (VISTA)

This is the Primary Menu for the BCMA Backup Contingency. (VISTA Menu)

TYPE: menu
ITEM: PSB BCBU INIT WRKSTN DFT
ITEM: PSB BCBU INIT WRKSTN DIV
ITEM: PSB BCBU LINK ASSOCIATIONS
ITEM: PSB BCBU USER INIT
ITEM: PSB BCBU INIT SINGLE PT

PSB BCBU INIT WRKSTN DFT
Default Workstation Initialize

This option is used to initialize Workstations that are linked as default.
(VISTA Option)

TYPE: run routine   ROUTINE: OPT^ALPBIND

PSB BCBU LINK ASSOCIATIONS
Associate Backup Workstations with a Division

For sites running the REAL-TIME BCMA BACKUP interface, use this option to

---

```
assign your backup workstations to specific divisions. If you are not a
multidivisional site, associate all backup workstations with a single
division.

When HL7 events occur, the division associated with the patient will be used
to determine which workstations will get the message.  (VISTA Menu)

TYPE: run routine        ROUTINE: ALPBPARM
................................................................................
PSB BCBU INIT WRKSTN DIV
Divisional Workstation Initialize

This option is used to initialize Workstations that are linked by Division.
(VISTA Option)

TYPE: run routine        ROUTINE: OPT^ALPBIN
................................................................................
PSB BCBU USER INIT
Initialize a Backup Workstation with BCMA Users

This option searches the VISTA New Person file for authorized BCMA users and
generates a version 2.4 HL7 message. Messages are addressed dynamically based
on the parameter definitions for BCMA Backup using divisions or the default
group.

TYPE: run routine        ROUTINE: INIT^ALPBGEN2
................................................................................
PSB BCBU INIT SINGLE PT
Single Patient Init

This option will send inpatient orders to the BCMA Contingency workstation for
a single patient.

TYPE:  run routine       ROUTINE:  SNDPT^ALPBIND


PSB BCBU PRINT BLK MAR
Print Blank Mar for Selected Patient
This option allows the user to select a patient from the BCMA
 contingency and print a blank 3 or 7 day MAR. The MAR will only contain
patient info.
   TYPE: run routine      ROUTINE: ALPBBK
................................................................................
```

HL7 Parameters

PSB BCBU CLIENT
ACTIVE/INACTIVE: ACTIVE
HL7 ENCODING CHARACTERS: ~|\&

PSB BCBU SERVER
ACTIVE/INACTIVE: ACTIVE

Technical Information

HL7 ENCODING CHARACTERS: ~|\&

PSB PMU RECV

ACTIVE/INACTIVE: ACTIVE
COUNTRY CODE: USA
HL7 ENCODING CHARACTERS: ~&^\
HL7 FIELD SEPARATOR: |

PSB PMU SEND

ACTIVE/INACTIVE: ACTIVE
COUNTRY CODE: USA
HL7 ENCODING CHARACTERS: ~&^\
HL7 FIELD SEPARATOR: |

HL7 Message Examples

Unit Dose Orders

```
PID^^488-36-5850~~^10748~2~M10^^AUGUSTA~JOHN~J^^19350517^M^^^^^^^^^^555112222
PV1^1^I^4E M-KC~SE403~3^^^^5468~BISMARK~CAPTAIN~A^^^^^^^^^^NSC VETERAN
ORC^XX^~OR^1U~PS^^DC~discontinued^^^^199709191028-0400^33~ATHENS,ROMAN PHARM
D^^7356~ALBANY, ALBERT^^^199709191028-0400^~~99ORN~~~^^
RXO^~~~~~99PSP^^^^^^^^^^^^^^^
RXE^&&2&~Q4H PRN&~~199709191028-0400~19970920120402-0400~~~^326.2485~OXYCODONE
HCL 5MG/ACETAMINOPHEN
       325MG TAB~99NDF~7106~OXYCODONE 5MG/ACETAMINOPHEN 325MG
TAB UD~99PSD^^^~~~0~~99PSU^~~~~~99PSF^^^^^^^^24133~BISMARK, SAMANTHA
       E~99NP^^^^^^^^^^^^~~~~~99PSU
RXR^~~~1~ORAL~99PSR^^^^
ZRX^^^^^24133~BISMARK, SAMANTHA E~99NP^


 PID^^488-36-
5850~~^10748~2~M10^^AUGUSTA~JOHN~J^^19350517^M^^^^^^^^^^555112222
 PV1^1^I^4E M-KC~SE403~3^^^^5468~BISMARK~CAPTAIN~A^^^^^^^^^^NSC VETERAN
 ORC^XX^2425936~OR^15U~PS^^DC~discontinued^^^^199802170206-0400^159~BOISE,
WILLIAM W^^14109~COLUMBIA,CHARLIE^^^199802170206-
       0400^~~99ORN~~~^^
 RXO^~~~765~HEPARIN INJ,SOLN~99PSP^^^^^^^^^^^^^^^
 RXE^&&1&~Q12H&0600-1800~~199802170206-0400~19980217164826-0400~~~5000
UNITS^80.742~HEPARIN NA 10000UNT/ML INJ~99NDF~6847~HEPARIN NA
       10000 UNT/ML
INJ~99PSD^^^~~~43~UNT/ML~99PSU^~~~84~INJ,SOLN~99PSF^^^^^^^^24133~BISMARK,
SAMANTHA E~99NP^^^^^^^^^^10000^~~~43~UNT/ML~99PSU
 RXR^~~~30~SUBCUTANEOUS~99PSR^^^^
 ZRX^^^^^24133~BISMARK, SAMANTHA E~99NP^
```

IV Orders

```
 PID^^488-36-
```

Technical Information

```
5850~~^10748~2~M10^^AUGUSTA~JOHN~J^^19350517^M^^^^^^^^^^^555112222
 PV1^1^I^4E M-KC~SE403~3^^^^5468~BISMARK~CAPTAIN~A^^^^^^^^^^^NSC VETERAN
 ORC^XX^8547404;1~OR^53V~PS^^CM~finished/verified by
pharmacist(active)^^^^20021206135950-0400^24133~BISMARK, SAMANTHA
E^^24133~BISMARK, SAMANTHA E^^^200212061359-
        0400^~~99ORN~~~^^
 RXO^~~~1062~MULTIVITAMIN INJ,SOLN~99PSP^^^^^^^^^^^^^^^^
 RXE^~&~~200212061359-0400~200212071400-0400^^^^^^^^^^^^^24133~BISMARK,
SAMANTHA E~99NP^^^^^^^^^^10^~~~~ml/hr~PSU^^
 NTE^21^L^I would like to enter these provider comments
 RXC^A^~~~1062~MULTIVITAMIN~99PSP^10^~~~PSIV-1~ML~99OTH^^^^^^^^^^^^^^^^^^^^
 RXC^A^~~~688~FOLIC ACID~99PSP^2^~~~PSIV-4~MG~99OTH^^^^^^^^^^^^^^^^^^^^
 RXC^A^~~~1488~TRACE ELEMENTS~99PSP^2^~~~PSIV-1~ML~99OTH^^^^^^^^^^^^^^^^^^^^
 RXC^B^~~~490~DEXTROSE 5%/WATER~99PSP^1000^~~~PSIV-
1~ML~99OTH^^^^^^^^^^^^^^^^^^^
 ZRX^^^N^^24133~BISMARK, SAMANTHA E~99NP^IV


 PID^^488-36-
5850~~^10748~2~M10^^AUGUSTA~JOHN~J^^19350517^M^^^^^^^^^^^555112222
 PV1^1^I^4E M-KC~SE403~3^^^^5468~BISMARK~CAPTAIN~A^^^^^^^^^^^NSC VETERAN
 ORC^XX^8528561~OR^48V~PS^^CM~finished/verified by
pharmacist(active)^^^^2001041
        12336-0400^159~CHALK,PINK W^^16114~AUSTIN,JEFFREY^^^200104112336-
0400^~~99ORN~~~^^
 RXO^~~~282~CEFTRIAXONE INJ,SOLN~99PSP^^^^^^^^^^^^^^^^
 RXE^~Q24H&06~~200104112336-0400~200104161400-0400^^^^^^^^^^^^^24133~BISMARK,
SAMANTHA E~99NP^^^^^^^^^INFUSE OVER 30 MINUTES^^^
 RXC^A^~~~282~CEFTRIAXONE~99PSP^1^~~~PSIV-5~GM~99OTH^^^^^^^^^^^^^^^^^^^^
 RXC^B^~~~2254~ISO-OSMOTIC~99PSP^50^~~~PSIV-1~ML~99OTH^^^^^^^^^^^^^^^^^^^^
 RXR^~~~14~INTRAVENOUS~99PSR^^^~~~P~PIGGYBACK~99PSR^
 ZRX^^^N^^24133~BISMARK, SAMANTHA E~99NP^


 PID^^488-36-
5850~~^10748~2~M10^^AUGUSTA~JOHN~J^^19350517^M^^^^^^^^^^^555112222
 PV1^1^I^4E M-KC~SE403~3^^^^5468~BISMARK~CAPTAIN~A^^^^^^^^^^^NSC VETERAN
 ORC^XX^5997759~OR^46V~PS^^DC~discontinued^^^^200103201458-
0400^8124~WITT,DIM^^23714~JURGENSMEYER,JOHN JACOB C^^^200103201458-
        0000^~~99ORN~~~^^
 RXO^~~~1062~MULTIVITAMIN INJ,SOLN~99PSP^^^^^^^^^^^^^^^^
 RXE^~&~~200103201458-0400~200103211037-0400^^^^^^^^^^^^^24133~BISMARK,
SAMANTHA E~99NP^^^^^^^^^100^~~~~ml/hr~PSU^^
 NTE^21^L^TO STOP WHEN TAKING ADEQUATE ORALS
 RXC^A^~~~1062~MULTIVITAMIN~99PSP^10^~~~PSIV-1~ML~99OTH^^^^^^^^^^^^^^^^^^^^
 RXC^A^~~~1456~THIAMINE~99PSP^100^~~~PSIV-4~MG~99OTH^^^^^^^^^^^^^^^^^^^^
 RXC^A^~~~688~FOLIC ACID~99PSP^1^~~~PSIV-4~MG~99OTH^^^^^^^^^^^^^^^^^^^^
 RXC^A^~~~1371~SODIUM BICARBONATE~99PSP^50^~~~PSIV-
8~MEQ~99OTH^^^^^^^^^^^^^^^^^^^
 RXC^B^~~~486~DEXTROSE 5%/0.45% NACL~99PSP^1000^~~~PSIV-
1~ML~99OTH^^^^^^^^^^^^^^^^^^^
 ZRX^^^N^^24133~BISMARK, SAMANTHA E~99NP^IV
```

Med Log

```
 PID^^488-36-
```

```
5850~~^10748~2~M10^^AUGUSTA~JOHN~J^^19350517^M^^^^^^^^^^555112222
 PV1^1^I^4E M-KC~SE403~3^^^^5468~BISMARK~CAPTAIN~A^^^^^^^^^^NSC VETERAN
 ORC^ML^^330U~PS^^G~GIVEN^^^^20010414131522-0400^15454~KELLER,ANGELA L
```

Parameter Definitions

PSB BKUP DEFAULT

DISPLAY TEXT: Package-specific 'default' Logical Links
MULTIPLE VALUED: Yes
INSTANCE TERM: Logical Link
VALUE DATA TYPE: pointer
VALUE DOMAIN: 870
VALUE HELP: Enter the HL7 logical link
INSTANCE DATA TYPE: pointer
INSTANCE DOMAIN: 870
INSTANCE HELP: Enter the HL7 logical link
DESCRIPTION: This parameter is used by the BCMA Backup system to route messages to a "default" group of HL7 Logical Links that are associated with the BCMA package rather than individual divisions. When the default group is defined, all messages will be routed to this group rather than using division-based grouping under the following conditions:

1. If a call is made to the API, GET^ALPBPARM, and the division parameter is not present or null.

2. If a call is made to the API, GET^ALPBPARM, and the division specified has no logical links associated with it.
PRECEDENCE: .5
ENTITY FILE: PACKAGE

PSB BKUP MACHINES

DISPLAY TEXT: Division-specific Logical Links
MULTIPLE VALUED: Yes
INSTANCE TERM: Logical Link
VALUE DATA TYPE: Pointe
VALUE DOMAIN: 870
VALUE HELP: Enter the HL7 Logical Link
INSTANCE DATA TYPE: pointer
INSTANCE DOMAIN: 870
INSTANCE HELP: Enter the HL7 Logical Link
DESCRIPTION: This parameter defines the BCMA Backup Logical Links that may be associated with a division when there are one or more divisions at a site.
PRECEDENCE: 1
ENTITY FILE: DIVISION

Technical Information

PSB BKUP ONLINE

DISPLAY TEXT: BCMA Contingency Online
VALUE DATA TYPE: yes/no
DESCRIPTION: This parameter is used by the BCMA Backup system to activate the Contingency software. If the value is set to NO then no HL7 messages will be sent to the Workstation. This does not affect the workstation initialization option.
PRECEDENCE: 1
ENTITY FILE: PACKAGE

PSB BKUP IPH

DISPLAY TEXT: BCMA Contingency Active Pharm Order
VALUE DATA TYPE: numeric
DESCRIPTION: The BCMA Backup Contingency software uses this parameter. During the Workstation initialization process, this tells the process how many days of historic Inpatient Medication Orders to capture. It is based off the fact the order was active during that time.
PRECEDENCE: 1
ENTITY FILE: PACKAGE

PSB BKUP MEDLG

DISPLAY TEXT: BCMA Contingency MedLog DFT
VALUE DATA TYPE: numeric
DESCRIPTION: The BCMA Backup Contingency software uses this parameter. During the Workstation initialization process, this tells the process how many days of historic Med Log entries of Inpatient Medication Orders to capture.
PRECEDENCE: 1
ENTITY FILE: PACKAGE

List Templates

PSB ERROR LOG

TYPE OF LIST: PROTOCOL
RIGHT MARGIN: 80
TOP MARGIN: 4
BOTTOM MARGIN: 20
OK TO TRANSPORT?: OK
USE CURSOR CONTROL: YES
PROTOCOL MENU: PSB ERROR LOG MENU
SCREEN TITLE: BCMAbu Error Log
ALLOWABLE NUMBER OF ACTIONS: 1
AUTOMATIC DEFAULTS: YES
HIDDEN ACTION MENU: VALM IDDEN ACTIONS

Technical Information

ARRAY NAME: ^TMP("ALPBELOG",$J)
EXIT CODE: D EXIT^ALPBELOG
HEADER CODE: D HDR^ALPBELOG
HELP CODE: D HELP^ALPBELOG
ENTRY CODE: D INIT^ALPBELOG

PSB SELECT ORDERS

TYPE OF LIST: PROTOCOL
RIGHT MARGIN: 80
TOP MARGIN: 5
BOTTOM MARGIN: 19
OK TO TRANSPORT?: OK
USE CURSOR CONTROL: YES
PROTOCOL MENU: PSB ORDERS MENU
SCREEN TITLE: BCMAbu ACTIVE Orders List
ALLOWABLE NUMBER OF ACTIONS: 1
HIDDEN ACTION MENU: VALM HIDDEN ACTIONS
ARRAY NAME: ^TMP("ALPBORDS",$J)
ITEM NAME: OrderNum
COLUMN: 2
WIDTH: 10
DISPLAY TEXT: Order No.
ITEM NAME: OrderType
COLUMN: 22
WIDTH: 4
DISPLAY TEXT: Type
ITEM NAME: Status
COLUMN: 14
WIDTH: 7
DISPLAY TEXT: Status
ITEM NAME: Meds
COLUMN: 28
WIDTH: 45
DISPLAY TEXT: Medication(s)
EXIT CODE: D EXIT^ALPBSP1
HEADER CODE: D HDR^ALPBSP1
HELP CODE: D HELP^ALPBSP1
ENTRY CODE: D INIT^ALPBSP1

PSB SELECT PATIENT

TYPE OF LIST: PROTOCOL
RIGHT MARGIN: 80
TOP MARGIN: 4

BOTTOM MARGIN: 15
OK TO TRANSPORT?: OK
USE CURSOR CONTROL: YES
PROTOCOL MENU: PSB PATIENT MENU
SCREEN TITLE: BCMAbu Patient List (All)
ALLOWABLE NUMBER OF ACTIONS: 1
HIDDEN ACTION MENU: VALM HIDDEN ACTIONS
ARRAY NAME: ^TMP("ALPBPLIST",$J)
ITEM NAME: Patient
COLUMN: 2
WIDTH: 30
DISPLAY TEXT: Patient
ITEM NAME: SSN
COLUMN: 33
WIDTH: 9
DISPLAY TEXT: SSN
ITEM NAME: WARD
COLUMN: 43
WIDTH: 15
DISPLAY TEXT: Ward
ITEM NAME: ROOM
COLUMN: 62
WIDTH: 5
DISPLAY TEXT: Room
ITEM NAME: BED
COLUMN: 72
WIDTH: 5
DISPLAY TEXT: Bed
EXIT CODE: D EXIT^ALPBSPAT
HEADER CODE: D HDR^ALPBSPAT
HELP CODE: D HELP^ALPBSPAT
ENTRY CODE: D INIT^ALPBSPAT

PSB SHOW ORDERS

TYPE OF LIST: DISPLAY
RIGHT MARGIN: 80
TOP MARGIN: 5
BOTTOM MARGIN: 20
OK TO TRANSPORT?: OK
USE CURSOR CONTROL: YES
SCREEN TITLE: BCMAbu Selected Order(s)
ALLOWABLE NUMBER OF ACTIONS: 1
AUTOMATIC DEFAULTS: YES
HIDDEN ACTION MENU: VALM HIDDEN ACTIONS

Technical Information

ARRAY NAME:^TMP("ALPBFORM",$J)
EXIT CODE: D EXIT^ALPBSP2
HEADER CODE: D HDR^ALPBSP2
HELP CODE: D HELP^ALPBSP2
ENTRY CODE: D INIT^ALPBSP2

HL Communication Service Parameters

These parameters exist only on the workstations and is included in the .dat file.

Select HL COMMUNICATION SERVER PARAMETERS ONE: 1

ONE: 1   DOMAIN: BCMABU.MED.VA.GOV
  DEFAULT PROCESSING ID: training   INSTITUTION: SOFTWARE SERVICE
  DEFAULT NUMBER INCOMING FILERS: 2   DEFAULT NUMBER OUTGOING
FILERS: 2
  PURGE COMPLETED MESSAGES: 2   PURGE AWAITING ACK MESSAGES: 2
  PURGE ALL MESSAGES: 4

Select HL LOGICAL LINK NODE: LISTNER

NODE: LISTNER   LLP TYPE: TCP
  DEVICE TYPE: Single-threaded Server
  AUTOSTART: Enabled
  SHUTDOWN LLP ?: NO
  QUEUE SIZE: 10   RE-TRANSMISSION ATTEMPTS: 2
  BLOCK SIZE: 256   READ TIMEOUT: 2
  ACK TIMEOUT: 10   EXCEED RE-TRANSMIT ACTION: restart
  TCP/IP PORT: 10000   TCP/IP SERVICE TYPE: SINGLE LISTENER
  PERSISTENT: NO   RETENTION: 120

Technical Information

Files Associated with GT.M/Linux BCMA:

The following files are provided with the GT.M version of Bar Code Medication Administration Backup System (BCBU) and are unpacked from the bcma_files.tar.gz file into $HOME of the BCMA manager account.

.bashrc – this is the BCMA manager's *$HOME/.bashrc* file. This file defines GT.M related global variables, sets convenient aliases and sets terminal characteristics. This file may be edited but all GT.M variable and terminal definitions should be retained to guarantee the proper functioning of the GT.M database.

bcmabashrc – *install_bcma* creates a generic "bcma" Linux account tied to V*IST*A. *bcmabashrc* is renamed to */home/bcma/.bashrc* and is called with each "bcma" user login. The call to this file ties the user to V*IST*A and prevents access to the Linux or GT.M level as well as defining GT.M related global variables.

bcma.gld – this it the GT.M global directory file which defines the location of the BCMAbu database. *install_bcma* edits this file automatically to account for the directory structure specified by the installer. The GT.M database utility, GDE, accesses this file.

cronjrnclean – this file is used to generate the crontab procedure (found in /var/spool/tar/bcma_manager_name) which runs nightly to flip the GT.M journal file, remove old journal files and remove temporary GT.M process related files in the manager's $HOME. This file is only used once during the BCMA install.

gcomp - run this file at your GT.M manager to recompile all M routines. At times, compiled objects may end up with the wrong user ownership (for example, if patches were installed and run as root).   Run this script to correct such situations.

jrnclean – this file is called by /var/spool/tar/bcma_manager_name nightly at 1:00am to flip the GT.M journal file, remove old journal files and remove temporary GT.M process related files in the BCMA manager's $HOME.

jrnoff - this file may be used to turn journaling off. Note that journaling is automatically enabled with every reboot of the system by *rc.local*.

jrnon – this file may be used to turn journaling on or flip the current journal file to a new one. It is called by *jrnclean*. Journal files are found in $HOME/jrn of the bcma manager.

netmail_start – this file is called by *rc.local* during runlevel 5-system startup to start network mail on port 25. If netmail needs to be started manually, run this file as root (other users will not have the privileges to connect a process to port 25).

rc.local – this is a user-editable Linux file found in /etc/rc.d and is called during system startup and shutdown. This file calls *$HOME/recoverall*, *$HOME/jrnon*, *$HOME/taskman_start* and

Technical Information

$HOME/netmail_start during system startup. It will call *$HOME/zgstop* during system shutdown. If *rc.local* is successful in each of these calls, the following empty files will be created in $HOME of the BCMA manager account: *recoverys, TaskMan, netmails*, and *rundowns*.

recoverall – this file is called by *rc.local* during system startup and attempts to recover the database should the system be shutdown uncleanly.

taskman_start – this file starts TaskMan automatically during system startup. If TaskMan needs to be started manually, run *taskman_start* as root (TaskMan automatically starts HL7 processes – the LISTNER link needs to connect with port 10000).

V*IST*A – this script resides in the /home/bcma and /home/gtm manager directories and is called by the icon file $HOME/.gnome-desktop/ **V*IST*A** -icon for the respective users

*-icon - These are the desktop icon files. The BCMA and GT.M manager users both have the **V*IST*A** -icon, which will bring the user to the access/verify prompts. In addition to this, the GT.M manager user will also have the term-icon and editor-icon on its desktop to open a terminal session and gedit text editor respectively.

zgstop - this file is called by *rc.local* during system shutdown to shutdown GT.M cleanly and performs a recovery if needed. Call this file as root if GT.M needs to be shutdown (only the root user will be permitted to stop ALL GT.M processes – if another user call zgstop, only its own processes will be shutdown). This file is derived from */usr/local/gtm/gstop*.

Technical Information

Adding a BCMA printer to the Cache/NT Contingency system:

Contingency Workstation (V*IST*A) printer:

Slave printers are defined in **V*IST*A** as P22O/102 SLAVE CACHE/NT

- test the printer through **V*IST*A**

DEVICE file entry:

```
NAME: P22O/102 SLAVE CACHE/NT              $I: 0
  ASK DEVICE: NO                           ASK PARAMETERS: NO
  LOCATION OF TERMINAL: slave device for Cache/NT
MNEMONIC: SLAVE
  SUBTYPE: C-VT220                         TYPE: TERMINAL
```

Network printer:

From the NT menu:

- ***Start/Settings/Printers/Add Printer***
- Select the ***My Computer*** radio button then ***Next*** to continue
- Click the ***Add Port*** button
- Double click the ***LPR Port*** then fill in the IP address of the device and the name then ***Close*** to continue
- make sure the box for the newly created port is checked then ***Next*** to continue
- select the printer driver (note - you may need the NT install CD handy for this step) then ***Next*** to continue
- enter the printer name then ***Next*** to continue – NOTE: this is the value that will be used in the $I below
- select shared or not shared then ***Next*** to continue
- try printing a test page - at this point, NT might start requesting the install CD for specific drivers

From the W2K menu:

- ***Start/Settings/Printers/Add Printer***
- ***Next*** at the welcome add printer wizard box
- Select the ***Local Printer*** radio button and uncheck the automatic detection for plug and play devices then ***Next*** to continue
- Select the ***Create a new port*** radio button then select either ***LPR*** or ***Standard TCPIP port*** from the dropdown menu.
- For LPR:
  - fill in the IP address of the device and the name then ***Close*** to continue

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- For TCPIP:
  - o click *Next* to continue in the welcome wizard window
  - o enter the printer name or IP address then *Next* to continue
- select the driver then *Next* to continue
- enter the printer name then *Next* to continue – NOTE: this is the value that will be used in the $I below
- share or not then *Next* to continue
- print a test page then *Next* to continue

From within Contingency Workstation (V*IST*A) Printer

- No special terminal types need to be used for Cache/NT network printing. Several HP-LASER terminal types are available in the TERMINAL TYPE file as installed.
- Create a new entry in the DEVICE file as per the example below. $I syntax is |PRN|\\bcmaservername\LPR device defined above. In the example below, the A410 printer was defined as an LPR port through NT. The server name is VHAISADHC1
- Test the printer through V*IST*A.

Examples:

DEVICE file entries:

```
NAME: A410                              $I: |PRN|\\VHAISADHC2\A410
  LOCATION OF TERMINAL: A410            SUBTYPE: P-HPL/10/6/U
  TYPE: TERMINAL
```

TERMINAL TYPE file entries:

```
NAME: P-HPLASER-P10                     RIGHT MARGIN: 80
  FORM FEED: #                          PAGE LENGTH: 64
  BACK SPACE: $C(8)                     OPEN EXECUTE: W *27,"E"
  CLOSE EXECUTE: W *27,"E"              PROPORTIONAL SPACING: $C(27) "(s1P"
  DESCRIPTION: LASER PRINTER PORTRAIT MODE 10 CPI


NAME: P-HPLASER-L230                    RIGHT MARGIN: 230
  FORM FEED: $C(12,13)                  PAGE LENGTH: 64
  BACK SPACE: $C(8)
  OPEN EXECUTE: W *27,"E",*27,"&k7.2H",*27,"&k2S",*27,"&l1o11c1e5.15c72F",*27,"&
a01l230m0R",*27,"(s0p16.66h12v0s0b3T"
  CLOSE EXECUTE: W *27,"&l0O",*27,"&s0C",*27,"&k10H",*27,"&l7.4c69p2e67F",*27,"&
ao1l95M"
  DESCRIPTION: LASER REDUCED 16 CPI (8 1/2 X 14)
  16 PITCH: W $C(27)_"(s16.66H"
```

Technical Information

Adding a BCMA printer to the GT.M/Linux Contingency system:

Contingency Workstation (V*IST*A)

From the Linux menu:

1. Select *System Settings* then *Printing*
2. In the Red Hat printer config windows click *New* to create a new printer queue
3. Read the instructions then click *Forward* to continue
4. Specify 'local' or 'LOCAL' as the name for the new printer and select *local printer* radio button then click *Forward* to continue
5. Accept */dev/lp0* as printer device to use then click *Forward* to continue
6. Select the driver for your local printer then click *Forward* to continue. *Postscript Printer* is usually acceptable for HP printers
7. Click *Apply* button to restart LPD
8. You may test the printer by selecting it in the Red Hat printer config window then selecting *Test* from the horizontal menu.

From within Contingency Workstation (V*IST*A)

1. P220/102 SLAVE GTM/LINUX entries are already pre-defined in V*IST*A DEVICE file.
2. test the printer through V*IST*A

DEVICE file entries:

```
NAME: P220/102 SLAVE GTM/LINUX            $I: $HOME/slave.dat
  ASK DEVICE: NO                          ASK PARAMETERS: NO
  LOCATION OF TERMINAL: basic slave device for gtm/linux
  ASK HOST FILE: NO                       SUPPRESS FORM FEED AT CLOSE: YES
  OPEN PARAMETERS: newversion
MNEMONIC: SLAVE
  SUBTYPE: P-SLAVE TEXT GTM/LINUX         TYPE: HOST FILE SERVER
```

```
NAME: P220/102 HP 80 SLAVE GTM/LINUX    $I: $HOME/slave.dat
  ASK DEVICE: NO                          ASK PARAMETERS: NO
  LOCATION OF TERMINAL: HP 80 slave device for gtm/linux
  ASK HOST FILE: NO                       SUPPRESS FORM FEED AT CLOSE: YES
  OPEN PARAMETERS: newversion
MNEMONIC: SLAVE
  SUBTYPE: P-SLAVE HP 80 GTM/LINUX        TYPE: HOST FILE SERVER
```

```
NAME: P220/102 HP 132 SLAVE GTM/LINU    $I: $HOME/slave.dat
  ASK DEVICE: NO                          ASK PARAMETERS: NO
  LOCATION OF TERMINAL: HP 132 slave device for gtm/linux
  ASK HOST FILE: NO                       SUPPRESS FORM FEED AT CLOSE: YES
  OPEN PARAMETERS: newversion
MNEMONIC: SLAVE
  SUBTYPE: P-SLAVE HP 80 GTM/LINUX        TYPE: HOST FILE SERVER
```

Technical Information

TERMINAL TYPE file entries:

```
NAME: P-SLAVE HP 132 GTM/LINUX            RIGHT MARGIN: 132
  FORM FEED: #                            PAGE LENGTH: 60
  BACK SPACE: $C(8)
  OPEN EXECUTE: W *27,"E",*27,"(s16.7H",*27,"&k3G"
  CLOSE EXECUTE: W *27,"E" U IO K IO(1,IO) C IO ZSYSTEM "lpr -lr "_IO
```

```
NAME: P-SLAVE HP 80 GTM/LINUX             RIGHT MARGIN: 80
  FORM FEED: #                            PAGE LENGTH: 60
  BACK SPACE: $C(8)                       OPEN EXECUTE: W *27,"E",*27,"&k3G"
  CLOSE EXECUTE: W *27,"E" U IO K IO(1,IO) C IO ZSYSTEM "lpr -lr "_IO
```

```
NAME: P-SLAVE TEXT GTM/LINUX              RIGHT MARGIN: 80
  FORM FEED: #                            PAGE LENGTH: 60
  BACK SPACE: $C(8)
  CLOSE EXECUTE: U IO K IO(1,IO) C IO ZSYSTEM "lpr -r "_IO
```

Network printer:

From the Linux menu:

1. select *System Settings* then *Printing*
2. In the Red Hat printer config windows click *New* to create a new printer queue
3. read the instructions then click *Forward* to continue
4. specify the name of the new printer (example: A405) and select either the *Unix Printer* or *Jetdirect Printer* radio button as type (NOTE: Unix printer uses port 515 and Jetdirect uses port 9100) then click *Forward* to continue
   a. if Unix printer: enter the printer hostname or IP in the *Server* box - no need to enter queue information
   b. if Jetdirect printer: enter the printer hostname or IP in the *Printer IP* box - accept 9100 as the port value then click *Forward* to continue.
5. Select the driver for your network printer then click *Forward* to continue*. Postscript Printer* is usually acceptable for HP printers.
6. click *Apply* button to restart LPD
7. You may test the printer by selecting it in the Red Hat printer config window then selecting *Test* from the horizontal menu.

From within Contingency Workstation (V*IST*A)

1. P-TCP * GTM/LINUX entries are already pre-defined in V*IST*A TERMINAL TYPE file. You may use TRANSFER FILE ENTRIES FileMan option to create new terminal types using these as templates. Edit the OPEN EXECUTE fields accordingly to vary print characteristics
2. Create a new DEVICE file entry.
   a. Note: The name of the new DEVICE must begin with the name of the Linux printer created above FOLLOWED BY A SPACE then a description (example:

"A405 - ADMIN 10/6/UP"). The CLOSE EXECUTE field of the TERMINAL
TYPE being used parses the queue name from the first space backward)

   b. I$'s for network printers are normally /home/*Linux bcma mgr acct*/hfs/devicename.txt

   c. Device TYPE - HFS

3. test the printer through **V***IST***A**

Examples:

DEVICE file entries:

```
NAME: A405 10/6/UP                      $I: /home/gtmmgr/hfs/A405.dat
  ASK DEVICE: NO                        ASK PARAMETERS: NO
  LOCATION OF TERMINAL: A405            ASK HOST FILE: NO
  SUPPRESS FORM FEED AT CLOSE: YES      OPEN PARAMETERS: newversion
  SUBTYPE: P-TCP 10/6/UP GTM/LINUX      TYPE: HOST FILE SERVER


NAME: A405 16/6/UP                      $I: /home/gtmmgr/hfs/A405.dat
  ASK DEVICE: NO                        ASK PARAMETERS: NO
  LOCATION OF TERMINAL: A405            ASK HOST FILE: NO
  SUPPRESS FORM FEED AT CLOSE: YES      OPEN PARAMETERS: newversion
  SUBTYPE: P-TCP 16/6/UP GTM/LINUX      TYPE: HOST FILE SERVER
```

TERMINAL TYPE file entries:

```
NAME: P-TCP 10/6/UP GTM/LINUX           SELECTABLE AT SIGN-ON: NO
  RIGHT MARGIN: 80                      FORM FEED: #
  PAGE LENGTH: 60                       BACK SPACE: $C(8)
  OPEN EXECUTE: W *27,"E",*27,"&k3G"
  CLOSE EXECUTE: W *27,"E" U IO K IO(1,IO) C IO ZSYSTEM "lpr -lrP
"_$E(ION,1,$F(ION," ")-1)_" "_IO


NAME: P-TCP 16/6/UP GTM/LINUX           SELECTABLE AT SIGN-ON: NO
  RIGHT MARGIN: 132                     FORM FEED: #
  PAGE LENGTH: 60                       BACK SPACE: $C(8)
  OPEN EXECUTE: W *27,"E",*27,"(s16.7H",*27,"&k3G"
  CLOSE EXECUTE: W *27,"E" U IO K IO(1,IO) C IO ZSYSTEM "lpr -lrP
"_$E(ION,1,$F(ION," ")-1)_" "_IO
```

Technical Information

Workstation Queued Tasks

The following tasks should be queued to run on the workstation. All except XMMGR-PURGE-AI-XREF (which has a rescheduling frequency of 7D) should have a rescheduling frequency of 1D. The GT.M and Cache dat files where released with these jobs scheduled properly but they should be checked, once TaskMan is started, to make sure they have run and are being rescheduled.

The following capture shows how to list the currently queued workstation tasks and verifies that the HL PURGE TRANSMISSIONS task has been rescheduled. Check the TaskMan error log should the jobs not appear to be run or scheduled properly.

```
Select Systems Manager Menu Option:

        Core Applications ...
        Device Management ...
        Menu Management ...
        Programmer Options ...
        Operations Management ...
        Spool Management ...
        Information Security Officer Menu ...
        Taskman Management ...
        User Management ...
        Application Utilities ...
        Capacity Management ...
        HL7 Main Menu ...

Select Systems Manager Menu Option: TASKman Management

        Schedule/Unschedule Options
        One-time Option Queue
        Taskman Management Utilities ...
        List Tasks
        Dequeue Tasks
        Requeue Tasks
        Delete Tasks
        Print Options that are Scheduled to run
        Cleanup Task List
        Print Options Recommended for Queueing

Select Taskman Management Option: SCHEdule/Unschedule Options

Select OPTION to schedule or reschedule: ?
   Answer with OPTION SCHEDULING NAME
   Choose from:
   XQBUILDTREEQUE       (R)
   XQ XUTL $J NODES       (R)
   XUTM QCLEAN       (R)
   XUERTRP AUTO CLEAN       (R)
   XMCLEAN       (R)
   XMAUTOPURGE       (R)
```

```
    XMMGR-PURGE-AI-XREF       (R)
    HL PURGE TRANSMISSIONS     (R)
    HL TASK RESTART      (R)
    HL AUTOSTART LINK MANAGER      (R)


    You may enter a new OPTION SCHEDULING, if you wish
    Enter OPTION to schedule.
    Only allow Action, Print, and Run type options.
 Answer with OPTION NAME
 Do you want the entire OPTION List? N  (No)
Select OPTION to schedule or reschedule: HL PURGE TRANSMISSIONS      Purge
Messages
        ...OK? Yes// <ENTER>  (Yes)
     (R)
                        Edit Option Schedule
    Option Name: HL PURGE TRANSMISSIONS
    Menu Text: Purge Messages                        TASK ID: 433
 _____
  QUEUED TO RUN AT WHAT TIME: JUN 3,2003@04:00

DEVICE FOR QUEUED JOB OUTPUT:

 QUEUED TO RUN ON VOLUME SET:

     RESCHEDULING FREQUENCY: 1D

           TASK PARAMETERS:

           SPECIAL QUEUEING:
```

Quick Reference Installation Checklist

Event	Where	Completed
1. Install patch PSB*2.0*17	V*IST*A	_____
A. FTP Software from an OI Field Office		_____
B. Install using Kids		_____
2. Workstation Setup		
NOTE: Ensure that the workstation has a static IP Address		
A. Windows/Cachè		
1. Setup Cachè – InterSystems supplies software. Example of install can be found in the manual, "Bar Code Medication Administration Backup System (BCBU) InterSystems Cache Installation Setup".	Workstation	
2. Shutdown Cachè		_____
3. Copy cache.dat file that was downloaded from the FTP site into C:\CACHESYS\folder. (If asked to replace file, answer yes.)		_____
4. Remove the Read-Only attribute from the cache.dat file.		_____
5. Ensure telnet is enabled in Cachè Configuration.		_____
6. Move ZSTU routine from V*IST*A namespace to %SYS namespace.		_____
7. Setup Telnet and Terminal users using Cachè Control Panel.		_____
8. Stop and Restart Cachè.		_____
9. Create BCMA Backup shortcut.		_____
B. Linux/GT.M		
1. Install Linux onto clean system	Workstation	
2. Example of install can be found in the manual, "Bar Code Medication Administration Backup System (BCBU) Linux Installation Setup. Make note of username entered and its password for future use. Also, remember the root password.		
		_____

Event	Where	Completed
3. Sign into Linux using the user created during the installation.		_____
4. Enter super user mode ($ su)		_____
5. Copy downloaded Linux files to an accessible location.		_____
6. Ensure downloaded file has correct permissions.		_____
7. Run the install script. (./install_bcma) – **NOTE: BCMA manager account will be the user you created during the Linux install.**		_____
8. Edit the TaskMan Site Parameters to enter the correct Box-Volume pair.		_____
9. Restart TaskMan.		_____
3. Workstation Database Initialization		_____
A. On new installs check the parameter PSB BKUP ONLINE VALUE=yes	V*IST*A	_____
B. Check the HL7 Site Parameter to make sure the field, "Is this a Production or Test Account", is set correctly.	V*IST*A	_____
C. Add a new link using HL7 options.	V*IST*A	_____
D. Associate the new link to a division using PSB BCBU V*IST*A MAIN option.	V*IST*A	_____
E. Start the new link using HL7 options.	V*IST*A	_____
F. Start the LISTNER link using HL7 options.	Workstation	_____
G. Initialize the workstation using Default or Divisional Workstation initialize option.	V*IST*A	_____

Contingency PC Workstation Reports

List/Display Orders

```
Select BCMA Backup System (Wrkstn) Option: SO <ENTER> List/Display Orders

BCMAbu Patient List (All)                    Jun 06, 2003@07:26:48        Page:    1 of    2
BCMA Backup System :: Patient Listing

 Patient                      SSN        Ward               Room      Bed

 PATIENT,TEST                 111111111 10W                NW1003A   3
 PATIENT,TEST2                222222222 4 MED              M20       A
 PATIENT,TEST3                333333333 TICU               656       8
 PATIENT,TEST4                444444444 3E SUBACUTE        A330      A
 PATIENT,TEST5                555555555 3W ORTHO           SW309     1
 PATIENT,TEST6                666666666 4E M               SE403     3
 PATIENT,TEST7                777777777 4 SURG             M30       A
 PATIENT,TEST8                888888888 3W GS              NW304     2
 PATIENT,TEST9                999999999 2B APCU            B218      A
 PATIENT,TEST10               101010101 3E GEM             A345      C
 PATIENT,TEST11               111001111 2B APCU            B215      A
 PATIENT, TEST 1              222334444 TICU               656       9


      Enter ?? for more actions

SP   Select Patient      LW   List by Ward       LA   List All Patients
Select Item(s): Next Screen// SP <ENTER>  Select Patient
Select PATIENT: PATIENT,TEST


BCMAbu ALL Orders List               Jun 06, 2003@07:27:23        Page:    1 of    1
PATIENT,TEST                   SSN: 111111111  Ward: 10W
This record last updated: Apr 30, 2003@09:38:02  Room: NW1003A Bed: 3
-------------------------------------------------------------------------------

 Order No.   Status  Type  Medication(s)

 57225P      Pending  P    ACETAMINOPHEN TAB (325MG ORAL QID PRN)














         Enter ?? for more actions

SO  Select Order         L1  List Active Orders    L2  List All Orders
Select Action: Quit// SO <ENTER>  Select Order
Select order number, more than one separated by a comma, or 'ALL':
```

Contingency PC Workstation Reports

```
Select ORDER#: ALL// 57225P


BCMAbu Selected Order(s)           Jun 06, 2003@07:27:51      Page:   1 of   1
PATIENT,TEST                    SSN: 111111111  Ward: 10W
This record last updated: Apr 30, 2003@09:38:02  Room: NW1003A Bed: 3
-------------------------------------------------------------------------------

 Order Number: 57225P                       Start: Apr 12, 2002@09:35
        Type: PENDING                        Stop: May 12, 2002@15:00
      Status: IP~pending
        Drug: ACETAMINOPHEN TAB
        Give: 325MG ORAL QID PRN
    Provider: PROVIDER,MD              RPh/Entry by: PHARMACIST
 Admin. Times:
CAUTION!  THIS IS A PENDING ORDER :: CHECK WITH PROVIDER!
-------------------------------------------------------------------------------







          Enter ?? for more actions

Select Action:Quit//  <ENTER>  QUIT

BCMAbu Patient List (All)           Jun 06, 2003@07:28:42      Page:   1 of   2
BCMA Backup System :: Patient Listing


 Patient                    SSN       Ward              Room      Bed

 PATIENT,TEST               111111111 10W               NW1003A   3
 PATIENT,TEST2              222222222 4 MED             M20       A
 PATIENT,TEST3              333333333 TICU              656       8
 PATIENT,TEST4              444444444 3E SUBACUTE       A330      A
 PATIENT,TEST5              555555555 3W ORTHO          SW309     1
 PATIENT,TEST6              666666666 4E M              SE403     3
 PATIENT,TEST7              777777777 4 SURG            M30       A
 PATIENT,TEST8              888888888 3W GS             NW304     2
 PATIENT,TEST9              999999999 2B APCU           B218      A
 PATIENT,TEST10             101010101 3E GEM            A345      C
 PATIENT,TEST11             111001111 2B APCU           B215      A
 PATIENT, TEST 1            222334444 TICU              656       9

         Enter ?? for more actions

SP   Select Patient      LW   List by Ward         LA   List All Patients
Select Item(s): Next Screen// LW  <ENTER> List by Ward
Wards with BCMA Backup Data on this workstation:

    10W
    2B APCU
    3E GEM
    3E SUBACUTE
    3W GS
    3W ORTHO
    4 MED
    4 SURG
    4E ENT
    4E M
    4E ON
    MICU
    TICU
```

Contingency PC Workstation Reports

```
Select WARD: 10W

BCMAbu Patient List (Ward)          Jun 06, 2003@07:29:08        Page:   1 of   1
BCMA Backup System :: Patient Listing


 Patient                      SSN        Ward             Room       Bed

 PATIENT,TEST                 111111111 10W              NW1003A    3
 PATIENT,TEST13               131313131 10W              NW1003     2
```

```
          Enter ?? for more actions

SP   Select Patient       LW   List by Ward        LA   List All Patients
Select Item(s): Quit// SP <ENTER>  Select Patient
Select PATIENT: PATIENT,TEST
```

Contingency PC Workstation Reports

```
BCMAbu ALL Orders List              Jun 06, 2003@07:29:45      Page:   1 of   1
PATIENT,TEST                    SSN: 111111111  Ward: 10W
This record last updated: Apr 30, 2003@09:38:02  Room: NW1003A Bed: 3
-------------------------------------------------------------------------------


 Order No.   Status  Type  Medication(s)

 57225P      Pending  P    ACETAMINOPHEN TAB (325MG ORAL QID PRN)












          Enter ?? for more actions

SO  Select Order        L1  List Active Orders    L2  List All Orders
Select Action: Quit//    <ENTER>
```

Contingency PC Workstation Reports

Print MAR for All Wards

```
Select BCMA Backup System (Wrkstn) Option: PA  Print MAR for All Wards
Inpatient Pharmacy Orders for all wards

Report [A]LL or [C]URRENT orders? CURRENT//

Print how many days MAR? 7// 3

Select beginning date for BCMA Medication Log history: Jun 03, 2003//   (JUN 03, 2003)


MAR Ran: Jun 06, 2003@07:18:38   Inpatient Pharmacy Orders (Backup)                       Page:   1
PATIENT,TEST10                   SSN: 101010101   DOB: Jan 03, 1949   Sex: M
Ward: 3E GEM              Room: A345       Bed: C
            This record last updated: Jun 04, 2003@15:22:38
                                                          Admin
Start                    Stop                             Times   06/06  06/07  06/08   Notes
---------------------------------------------------------------------------------------------------
Jun 04, 2003@09:50       Jun 09, 2003@24:00               |       |      |      |      |
<<AMPICILLIN/SULBACTAM INJ>>                              |       |_____|_____|_____|
 Additive(s): <<AMPICILLIN/SULBACTAM BOTTLE: 1 75GM>>     |       |_____|_____|_____|
 Solution(s): <<D-5-W  100ML>>                            |       |_____|_____|_____|
             <<0.9% NACL  250ML>>                         |       |_____|_____|_____|
       Give:  INTRAVENOUS  125 ml/hr                      |       |_____|_____|_____|
     Provider: PROVIDER,MD                                |       |_____|_____|_____|
RPh/Entry by: PHARM,STAFF1                                |       |_____|_____|_____|
 Verified by: NURSE,VOLUNTEER
     Order #: 14V         Type: IV
       Status: CM~finished/verified by pharmacist(active)
BCMA MEDICATION LOG HISTORY (since Jun 03, 2003)
 No Medication Log entries are on file for this order.
---------------------------------------------------------------------------------------------------
                                                          Admin
Start                    Stop                             Times   06/06  06/07  06/08   Notes
---------------------------------------------------------------------------------------------------
May 19, 2003@14:04       Jun 15, 2003@24:00               | 0230  |_____|_____|_____|
<<ACETAMINOPHEN 500MG TAB>>                               | 0530  |_____|_____|_____|
       Give: 500MG ORAL Q3H PRN                           | 0800  |_____|_____|_____|
     Provider: PROVIDER,MD                                | 1130  |_____|_____|_____|
RPh/Entry by: PHARM,STAFF1                                | 1400  |_____|_____|_____|
     Order #: 72U         Type: UNIT DOSE                 | 1700  |_____|_____|_____|
       Status: CM~finished/verified by pharmacist(active) | 2000  |_____|_____|_____|
BCMA MEDICATION LOG HISTORY (since Jun 03, 2003)          | 2300  |      |      |      |
 Log Date       Message       Log Entry Person            PRN Effectiveness:_____
 No entries since the above date are on file.
---------------------------------------------------------------------------------------------------
                                                          Admin
Start                    Stop                             Times   06/06  06/07  06/08   Notes
---------------------------------------------------------------------------------------------------
May 28, 2003@10:48       Jun 15, 2003@24:00               | 0200  |_____|_____|_____|
<<TRACE ELEMENTS 5ML INJ>>                                | 0500  |_____|_____|_____|
       Give: 25CC SUBCUTANEOUS Q3H                        | 0800  |_____|_____|_____|
     Provider: PROVIDER,MD                                | 1100  |_____|_____|_____|
RPh/Entry by: PHARM,STAFF1                                | 1400  |_____|_____|_____|
     Order #: 74U         Type: UNIT DOSE                 | 1700  |_____|_____|_____|
       Status: CM~finished/verified by pharmacist(active) | 2000  |_____|_____|_____|
Special Instructions:TESTING                              | 2300  |_____|_____|_____|
BCMA MEDICATION LOG HISTORY (since Jun 03, 2003)
 No Medication Log entries are on file for this order.
---------------------------------------------------------------------------------------------------
                                                          Admin
Start                    Stop                             Times   06/06  06/07  06/08   Notes
---------------------------------------------------------------------------------------------------
May 28, 2003@10:49       Jun 15, 2003@24:00               | 0500  |_____|_____|_____|
<<IBUPROFEN 600MG TAB>>                                   | 1300  |_____|_____|_____|
       Give: 600MG ORAL TID FILL ON REQUEST               | 2100  |      |      |      |
     Provider: PROVIDER,MD
RPh/Entry by: PHARM,STAFF1
     Order #: 76U         Type: UNIT DOSE
       Status: CM~finished/verified by pharmacist(active)
BCMA MEDICATION LOG HISTORY (since Jun 03, 2003)
 No Medication Log entries are on file for this order.
---------------------------------------------------------------------------------------------------
                                                          Admin
Start                    Stop                             Times   06/06  06/07  06/08   Notes
---------------------------------------------------------------------------------------------------
Jun 02, 2003@16:27       Jun 15, 2003@24:00               | 1400  |_____|_____|_____|
<<ACETOHEXAMIDE 250MG TAB>>
       Give: 250MG ORAL ONCE ONE TIME
     Provider: PROVIDER,MD
RPh/Entry by: PHARM,STAFF1
 Verified by: NURSE,VOLUNTEER
     Order #: 77U         Type: UNIT DOSE
       Status: CM~finished/verified by pharmacist(active)
BCMA MEDICATION LOG HISTORY (since Jun 03, 2003)
 No Medication Log entries are on file for this order.
```

Contingency PC Workstation Reports

```
-------------------------------------------------------------------------------
                                             Admin
Start                   Stop                 Times   06/06  06/07  06/08  Notes
-------------------------------------------------------------------------------
Jun 02, 2003@16:27    Jun 15, 2003@24:00     | 0500  |_____|_____|_____|
<<ALOH/MGOH/SIMTH XTRA STRENGTH CHEW TAB>>   | 1100  |_____|_____|_____|
     Give: 1 TABLET ORAL Q6H PRN             | 1700  |_____|_____|_____|
  Provider: PROVIDER,MD                      | 2300  |_____|_____|_____|
RPh/Entry by: PHARM,STAFF1                   PRN Effectiveness:_____
   Order #: 78U        Type: UNIT DOSE
    Status: CM~finished/verified by pharmacist(active)
BCMA MEDICATION LOG HISTORY (since Jun 03, 2003)
 No Medication Log entries are on file for this order.
-------------------------------------------------------------------------------
                                             Admin
Start                   Stop                 Times   06/06  06/07  06/08  Notes
-------------------------------------------------------------------------------
Jun 02, 2003@16:28    Jun 15, 2003@24:00     | 0100  |_____|_____|_____|
<<TRAMADOL HCL 50MG TAB>>                    | 0300  |_____|_____|_____|
     Give: 50MG ORAL Q2H FILL ON REQUEST     | 0500  |_____|_____|_____|
  Provider: PROVIDER,MD                      | 0700  |_____|_____|_____|
RPh/Entry by: PHARM,STAFF1                   | 0900  |_____|_____|_____|
   Order #: 79U        Type: UNIT DOSE       | 1100  |_____|_____|_____|
    Status: CM~finished/verified by pharmacist(active)  | 1300  |_____|_____|_____|
BCMA MEDICATION LOG HISTORY (since Jun 03, 2003)        | 1500  |_____|_____|_____|
 No Medication Log entries are on file for this order.  | 1700  |_____|_____|_____|
                                             | 1900  |_____|_____|_____|
                                             | 2100  |_____|_____|_____|
                                             | 2300  |_____|_____|_____|
-------------------------------------------------------------------------------
                                             Admin
Start                   Stop                 Times   06/06  06/07  06/08  Notes
-------------------------------------------------------------------------------
Jun 02, 2003@16:29    Jun 15, 2003@24:00     |       |_____|_____|_____|
<<SALSALATE 750MG TAB>>                      |       |_____|_____|_____|
     Give: 750MG ORAL ON CALL ON CALL        |       |_____|_____|_____|
  Provider: PROVIDER,MD                      |       |_____|_____|_____|
RPh/Entry by: PHARM,STAFF1                   |       |_____|_____|_____|
 Verified by: NURSE,VOLUNTEER                |       |_____|_____|_____|
   Order #: 80U        Type: UNIT DOSE       |       |      |      |      |
    Status: CM~finished/verified by pharmacist(active)  |      |      |      |
BCMA MEDICATION LOG HISTORY (since Jun 03, 2003)
 No Medication Log entries are on file for this order.
-------------------------------------------------------------------------------
|        SIGNATURE/TITLE          | INIT | INJECTION SITES (Right or Left)    VA FORM  10-2970
|_____ |_____| 1. DELTOID      4. MED (ANTERIOR) THIGH  7. ABDOMEN
|_____ |_____| 2. VENTRAL GLUTEAL  5. VASTUS LATERALIS  8. THIGH
|_____ |_____| 3. GLUTEUS MEDIUS  6. UPPER ARM          9. BUTTOCK
|                                 |      |10. UPPER BACK    PRN: E=Effective  N=Not Effective [H [J [2J [H

MAR Ran: Jun 06, 2003@07:18:39   Inpatient Pharmacy Orders (Backup)              Page:   1
ROCK,HENRY M                  SSN: 222334545  DOB: Aug 09, 1911   Sex: M
Ward: 3E GEM                  Room: A342      Bed: C
          This record last updated: Jun 05, 2003@12:21:04
                                             Admin
Start                   Stop                 Times   06/06  06/07  06/08  Notes
-------------------------------------------------------------------------------
Jun 05, 2003@11:52    Jul 02, 2003@24:00     | 0200  |_____|_____|_____|
<<ASCORBIC ACID 100MG TAB>>                  | 0500  |_____|_____|_____|
     Give: 100MG ORAL Q3H                    | 0800  |_____|_____|_____|
  Provider: PROVIDER,MD                      | 1100  |_____|_____|_____|
RPh/Entry by: PHARM,STAFF1                   | 1400  |_____|_____|_____|
 Verified by: NURSE,VOLUNTEER                | 1700  |_____|_____|_____|
   Order #: 36U        Type: UNIT DOSE       | 2000  |      |      |      |
    Status: CM~finished/verified by pharmacist(active)  | 2300  |_____|_____|_____|
BCMA MEDICATION LOG HISTORY (since Jun 03, 2003)
 No Medication Log entries are on file for this order.
-------------------------------------------------------------------------------
                                             Admin
Start                   Stop                 Times   06/06  06/07  06/08  Notes
-------------------------------------------------------------------------------
Jun 05, 2003@12:09    Jul 02, 2003@24:00     | 0200  |_____|_____|_____|
<<TOCAINIDE HCL 400MG TAB>>                  | 0500  |_____|_____|_____|
     Give: 400MG ORAL Q3H                    | 0800  |_____|_____|_____|
  Provider: PROVIDER,MD                      | 1100  |_____|_____|_____|
RPh/Entry by: PHARM,STAFF1                   | 1400  |_____|_____|_____|
 Verified by: NURSE,VOLUNTEER                | 1700  |_____|_____|_____|
   Order #: 37U        Type: UNIT DOSE       | 2000  |_____|_____|_____|
    Status: CM~finished/verified by pharmacist(active)  | 2300  |_____|_____|_____|
BCMA MEDICATION LOG HISTORY (since Jun 03, 2003)
 No Medication Log entries are on file for this order.
-------------------------------------------------------------------------------
                                             Admin
Start                   Stop                 Times   06/06  06/07  06/08  Notes
-------------------------------------------------------------------------------
Jun 05, 2003@13:09    Jul 02, 2003@24:00     | 0900  |_____|_____|_____|
<<SALICYLIC ACID 2/SULFUR 2% SHAMPOO>>
     Give: SHAMPOO TOPICAL QD FILL ON REQUEST
  Provider: PHARM,STAFF1
RPh/Entry by: PHARM,STAFF1
```

```
  Verified by: NURSE,VOLUNTEER
      Order #: 38U        Type: UNIT DOSE
       Status: CM~finished/verified by pharmacist(active)
BCMA MEDICATION LOG HISTORY (since Jun 03, 2003)
 No Medication Log entries are on file for this order.
------------------------------------------------------------------------------------
|         SIGNATURE/TITLE            | INIT | INJECTION SITES (Right or Left)    VA FORM  10-2970
|                                    |      | 1. DELTOID        4. MED (ANTERIOR) THIGH  7. ABDOMEN
|_____|_____| 2. VENTRAL GLUTEAL   5. VASTUS LATERALIS      8. THIGH
|_____|_____| 3. GLUTEUS MEDIUS    6. UPPER ARM          9. BUTTOCK
|_____|_____|10. UPPER BACK     PRN: E=Effective  N=Not Effective [H [J [2J [H


MAR Ran: Jun 06, 2003@07:18:39   Inpatient Pharmacy Orders (Backup)                     Page:   1
PATIENT, TEST 1                    SSN: 222334444   DOB: Jun 17, 1948   Sex: M
Ward: TICU            Room: 656         Bed: 9
            This record last updated: Apr 30, 2003@09:38:41
                                                        Admin
Start                    Stop                           Times   06/06  06/07  06/08   Notes
------------------------------------------------------------------------------------
May 07, 2003@10:19:41    Jul 01, 2003                   |        |_____|_____|_____|
<<TRIAMCINOLONE INJ,SUSP>>                              |        |_____|_____|_____|
 Additive(s): <<TRIAMCINOLONE DIACETATE 50MG>>          |        |_____|_____|_____|
 Solution(s): <<0.9% NACL  100ML>>                      |        |_____|_____|_____|
       Give:  INTRAVENOUS   50 ml/hr                    |        |_____|_____|_____|
    Provider: PROVIDER,MD                               |        |_____|_____|_____|
RPh/Entry by: PHARM,STAFF1                              |        |_____|_____|_____|
      Order #: 63V        Type: IV                      |        |_____|_____|_____|
       Status: CM~finished/verified by pharmacist(active)
BCMA MEDICATION LOG HISTORY (since Jun 03, 2003)
 No Medication Log entries are on file for this order.
------------------------------------------------------------------------------------
|         SIGNATURE/TITLE            | INIT | INJECTION SITES (Right or Left)    VA FORM  10-2970
|_____|_____| 1. DELTOID        4. MED (ANTERIOR) THIGH  7. ABDOMEN
|_____|_____| 2. VENTRAL GLUTEAL   5. VASTUS LATERALIS      8. THIGH
|_____|_____| 3. GLUTEUS MEDIUS    6. UPPER ARM          9. BUTTOCK
|_____|_____|10. UPPER BACK     PRN: E=Effective  N=Not Effective
```

Contingency PC Workstation Reports

Print MAR for Selected Patient

```
Select BCMA Backup System (Wrkstn) Option: PP  Print MAR for Selected Patient

Inpatient Pharmacy Orders for a selected patient
Select PATIENT NAME: PATIENT, TEST

Report [A]LL or [C]URRENT orders? CURRENT//

Print how many days MAR? 7// 3
BCMA Medication Log history: this patient has no history on file.


MAR Ran: Jun 06, 2003@07:20:26   Inpatient Pharmacy Orders (Backup)                          Page:
1
PATIENT,TEST                        SSN: 222334444   DOB: Mar 29, 1935   Sex: M
Ward: TICU                     Room: 656         Bed: 8
            This record last updated: Apr 30, 2003@09:38:46
Allergies: CIPROFLOXACIN
|              SIGNATURE/TITLE              | INIT | INJECTION SITES (Right or Left)      VA FORM  10-2970
|_____ |_____| 1. DELTOID          4. MED (ANTERIOR) THIGH  7. ABDOMEN
|_____ |_____| 2. VENTRAL GLUTEAL   5. VASTUS LATERALIS      8. THIGH
|_____ |_____| 3. GLUTEUS MEDIUS    6. UPPER ARM             9. BUTTOCK
|                                           |       |10. UPPER BACK      PRN: E=Effective  N=Not Effective



Inpatient Pharmacy Orders for a selected patient
Select PATIENT NAME:    PATIENT,TEST

Report [A]LL or [C]URRENT orders? CURRENT// ALL

Print how many days MAR? 7// 3
BCMA Medication Log history: this patient has no history on file.

MAR Ran: Jun 06, 2003@07:20:52   Inpatient Pharmacy Orders (Backup)                          Page:
1
PATIENT,TEST                        SSN: 222334444   DOB: Mar 29, 1935   Sex: M
Ward: TICU                     Room: 656         Bed: 8
            This record last updated: Apr 30, 2003@09:38:46
Allergies: CIPROFLOXACIN

                                                      Admin
Start                    Stop                         Times   06/06  06/07  06/08   Notes
------------------------------------------------------------------------------------------------------
---
Feb 12, 2003@11:09     Feb 13, 2003@14:00             | 0900  |******|******|******|
<<ADENOSINE INJ,SOLN>>
       Give: 4 MG INTRAVENOUS QD
   Provider: PROVIDER,MD
RPh/Entry by: TEAGUE,LYN D
     Order #: 57367P      Type: PENDING
       Status: IP~pending
CAUTION!  THIS IS A PENDING ORDER :: CHECK WITH PROVIDER!
BCMA MEDICATION LOG HISTORY
 No Medication Log entries are on file for this order.
------------------------------------------------------------------------------------------------------
---
|              SIGNATURE/TITLE              | INIT | INJECTION SITES (Right or Left)      VA FORM  10-2970
|_____ |_____| 1. DELTOID          4. MED (ANTERIOR) THIGH  7. ABDOMEN
|_____ |_____| 2. VENTRAL GLUTEAL   5. VASTUS LATERALIS      8. THIGH
|_____ |_____| 3. GLUTEUS MEDIUS    6. UPPER ARM             9. BUTTOCK
|                                           |       |10. UPPER BACK      PRN: E=Effective  N=Not Effective
```

Contingency PC Workstation Reports

Print MAR for Selected Ward

```
Select BCMA Backup System (Wrkstn) Option: PW  Print MAR for Selected Ward
Inpatient Pharmacy Orders for a selected ward
Select WARD: 3E GEM

Report [A]LL or [C]URRENT orders? CURRENT//

Print how many days MAR? 7// 3

Select beginning date for BCMA Medication Log history: Jun 03, 2003//   (JUN 03, 2003)


MAR Ran: Jun 06, 2003@07:24:36   Inpatient Pharmacy Orders (Backup)                     Page:  1
PATIENT,TEST10                SSN: 101010101   DOB: Jan 03, 1949   Sex: M
Ward: 3E GEM                  Room: A345      Bed: C
          This record last updated: Jun 04, 2003@15:22:38
                                                         Admin
Start                   Stop                             Times   06/06  06/07  06/08   Notes
---------------------------------------------------------------------------------------------------
Jun 04, 2003@09:50      Jun 09, 2003@24:00        |      |_____|_____|_____|
<<AMPICILLIN/SULBACTAM INJ>>                       |      |_____|_____|_____|
 Additive(s): <<AMPICILLIN/SULBACTAM BOTTLE: 1 75GM>>   |      |_____|_____|_____|
 Solution(s): <<D-5-W  100ML>>                     |      |_____|_____|_____|
              <<0.9% NACL  250ML>>                 |      |_____|_____|_____|
      Give:  INTRAVENOUS  125 ml/hr                |      |      |      |      |
    Provider: PROVIDER,MD                          |      |      |      |      |
RPh/Entry by: PHARM,STAFF1                          |      |_____|_____|_____|
 Verified by: NURSE,VOLUNTEER
     Order #: 14V       Type: IV
      Status: CM~finished/verified by pharmacist(active)
BCMA MEDICATION LOG HISTORY (since Jun 03, 2003)
 No Medication Log entries are on file for this order.
---------------------------------------------------------------------------------------------------
                                                         Admin
Start                   Stop                             Times   06/06  06/07  06/08   Notes
---------------------------------------------------------------------------------------------------
May 19, 2003@14:04      Jun 15, 2003@24:00        | 0230 |_____|_____|_____|
<<ACETAMINOPHEN 500MG TAB>>                        | 0530 |_____|_____|_____|
      Give: 500MG ORAL Q3H PRN                     | 0800 |_____|_____|_____|
    Provider: PROVIDER,MD                          | 1130 |_____|_____|_____|
RPh/Entry by: PHARM,STAFF1                          | 1400 |      |      |      |
     Order #: 72U       Type: UNIT DOSE            | 1700 |_____|_____|_____|
      Status: CM~finished/verified by pharmacist(active) | 2000 |_____|_____|_____|
BCMA MEDICATION LOG HISTORY (since Jun 03, 2003)  | 2300 |_____|_____|_____|
 Log Date       Message       Log Entry Person    PRN Effectiveness:_____
 No entries since the above date are on file.
---------------------------------------------------------------------------------------------------
                                                         Admin
Start                   Stop                             Times   06/06  06/07  06/08   Notes
---------------------------------------------------------------------------------------------------
May 28, 2003@10:48      Jun 15, 2003@24:00        | 0200 |_____|_____|_____|
<<TRACE ELEMENTS 5ML INJ>>                         | 0500 |_____|_____|_____|
      Give: 25CC SUBCUTANEOUS Q3H                  | 0800 |_____|_____|_____|
    Provider: PROVIDER,MD                          | 1100 |_____|_____|_____|
RPh/Entry by: PHARM,STAFF1                          | 1400 |_____|_____|_____|
     Order #: 74U       Type: UNIT DOSE            | 1700 |_____|_____|_____|
      Status: CM~finished/verified by pharmacist(active) | 2000 |_____|_____|_____|
Special Instructions:TESTING                       | 2300 |_____|_____|_____|
BCMA MEDICATION LOG HISTORY (since Jun 03, 2003)
 No Medication Log entries are on file for this order.
---------------------------------------------------------------------------------------------------
                                                         Admin
Start                   Stop                             Times   06/06  06/07  06/08   Notes
---------------------------------------------------------------------------------------------------
May 28, 2003@10:49      Jun 15, 2003@24:00        | 0500 |_____|_____|_____|
<<IBUPROFEN 600MG TAB>>                            | 1300 |_____|_____|_____|
      Give: 600MG ORAL TID FILL ON REQUEST         | 2100 |_____|_____|_____|
    Provider: PROVIDER,MD
RPh/Entry by: PHARM,STAFF1
     Order #: 76U       Type: UNIT DOSE
      Status: CM~finished/verified by pharmacist(active)
BCMA MEDICATION LOG HISTORY (since Jun 03, 2003)
 No Medication Log entries are on file for this order.
---------------------------------------------------------------------------------------------------
                                                         Admin
Start                   Stop                             Times   06/06  06/07  06/08   Notes
---------------------------------------------------------------------------------------------------
Jun 02, 2003@16:27      Jun 15, 2003@24:00        | 1400 |_____|_____|_____|
<<ACETOHEXAMIDE 250MG TAB>>
      Give: 250MG ORAL ONCE ONE TIME
    Provider: PROVIDER,MD
RPh/Entry by: PHARM,STAFF1
 Verified by: NURSE,VOLUNTEER
     Order #: 77U       Type: UNIT DOSE
      Status: CM~finished/verified by pharmacist(active)
BCMA MEDICATION LOG HISTORY (since Jun 03, 2003)
 No Medication Log entries are on file for this order.
---------------------------------------------------------------------------------------------------
```

```
                                                    Admin
Start                    Stop                       Times   06/06  06/07  06/08    Notes
-----------------------------------------------------------------------------------------------
Jun 02, 2003@16:27      Jun 15, 2003@24:00         | 0500  |_____|_____|_____|
<<ALOH/MGOH/SIMTH XTRA STRENGTH CHEW TAB>>         | 1100  |_____|_____|_____|
       Give: 1 TABLET ORAL Q6H PRN                 | 1700  |_____|_____|_____|
    Provider: PROVIDER,MD                          | 2300  |_____|_____|_____|
RPh/Entry by: PHARM,STAFF1                         PRN Effectiveness:_____
     Order #: 78U         Type: UNIT DOSE
      Status: CM~finished/verified by pharmacist(active)
BCMA MEDICATION LOG HISTORY (since Jun 03, 2003)
 No Medication Log entries are on file for this order.
-----------------------------------------------------------------------------------------------
                                                    Admin
Start                    Stop                       Times   06/06  06/07  06/08    Notes
-----------------------------------------------------------------------------------------------
Jun 02, 2003@16:28      Jun 15, 2003@24:00         | 0100  |_____|_____|_____|
<<TRAMADOL HCL 50MG TAB>>                          | 0300  |_____|_____|_____|
        Give: 50MG ORAL Q2H FILL ON REQUEST        | 0500  |_____|_____|_____|
     Provider: PROVIDER,MD                         | 0700  |_____|_____|_____|
RPh/Entry by: PHARM,STAFF1                         | 0900  |_____|_____|_____|
     Order #: 79U         Type: UNIT DOSE          | 1100  |_____|_____|_____|
      Status: CM~finished/verified by pharmacist(active)  | 1300  |_____|_____|_____|
BCMA MEDICATION LOG HISTORY (since Jun 03, 2003)   | 1500  |_____|_____|_____|
 No Medication Log entries are on file for this order.  | 1700  |      |      |      |
                                                   | 1900  |_____|_____|_____|
                                                   | 2100  |_____|_____|_____|
                                                   | 2300  |_____|_____|_____|
-----------------------------------------------------------------------------------------------
                                                    Admin
Start                    Stop                       Times   06/06  06/07  06/08    Notes
-----------------------------------------------------------------------------------------------
Jun 02, 2003@16:29      Jun 15, 2003@24:00         |       |_____|_____|_____|
<<SALSALATE 750MG TAB>>                            |       |_____|_____|_____|
       Give: 750MG ORAL ON CALL ON CALL            |       |_____|_____|_____|
    Provider: PROVIDER,MD                          |       |_____|_____|_____|
RPh/Entry by: PHARM,STAFF1                         |       |_____|_____|_____|
 Verified by: NURSE,VOLUNTEER                      |       |_____|_____|_____|
     Order #: 80U         Type: UNIT DOSE          |       |_____|_____|_____|
      Status: CM~finished/verified by pharmacist(active)  |       |_____|_____|_____|
BCMA MEDICATION LOG HISTORY (since Jun 03, 2003)
 No Medication Log entries are on file for this order.
-----------------------------------------------------------------------------------------------


|          SIGNATURE/TITLE           | INIT | INJECTION SITES (Right or Left)      VA FORM  10-2970
|_____|_____| 1. DELTOID          4. MED (ANTERIOR) THIGH  7. ABDOMEN
|_____|_____| 2. VENTRAL GLUTEAL  5. VASTUS LATERALIS      8. THIGH
|_____|_____| 3. GLUTEUS MEDIUS   6. UPPER ARM             9. BUTTOCK
|_____|_____|10. UPPER BACK     PRN: E=Effective  N=Not Effective [H [J [2J [H


MAR Ran: Jun 06, 2003@07:24:36   Inpatient Pharmacy Orders (Backup)                    Page:   1
ROCK,HENRY M                    SSN: 222334545   DOB: Aug 09, 1911   Sex: M
Ward: 3E GEM                    Room: A342       Bed: C
           This record last updated: Jun 05, 2003@12:21:04
                                                    Admin
Start                    Stop                       Times   06/06  06/07  06/08    Notes
-----------------------------------------------------------------------------------------------
Jun 05, 2003@11:52      Jul 02, 2003@24:00         | 0200  |_____|_____|_____|
<<ASCORBIC ACID 100MG TAB>>                        | 0500  |_____|_____|_____|
       Give: 100MG ORAL Q3H                        | 0800  |_____|_____|_____|
    Provider: PROVIDER,MD                          | 1100  |_____|_____|_____|
RPh/Entry by: PHARM,STAFF1                         | 1400  |_____|_____|_____|
 Verified by: NURSE,VOLUNTEER                      | 1700  |      |      |      |
     Order #: 36U         Type: UNIT DOSE          | 2000  |_____|_____|_____|
      Status: CM~finished/verified by pharmacist(active)  | 2300  |_____|_____|_____|
BCMA MEDICATION LOG HISTORY (since Jun 03, 2003)
 No Medication Log entries are on file for this order.
-----------------------------------------------------------------------------------------------
                                                    Admin
Start                    Stop                       Times   06/06  06/07  06/08    Notes
-----------------------------------------------------------------------------------------------
Jun 05, 2003@12:09      Jul 02, 2003@24:00         | 0200  |_____|_____|_____|
<<TOCAINIDE HCL 400MG TAB>>                        | 0500  |_____|_____|_____|
       Give: 400MG ORAL Q3H                        | 0800  |_____|_____|_____|
    Provider: PROVIDER,MD                          | 1100  |_____|_____|_____|
RPh/Entry by: PHARM,STAFF1                         | 1400  |_____|_____|_____|
 Verified by: NURSE,VOLUNTEER                      | 1700  |_____|_____|_____|
     Order #: 37U         Type: UNIT DOSE          | 2000  |_____|_____|_____|
      Status: CM~finished/verified by pharmacist(active)  | 2300  |_____|_____|_____|
BCMA MEDICATION LOG HISTORY (since Jun 03, 2003)
 No Medication Log entries are on file for this order.
-----------------------------------------------------------------------------------------------
                                                    Admin
Start                    Stop                       Times   06/06  06/07  06/08    Notes
-----------------------------------------------------------------------------------------------
Jun 05, 2003@13:09      Jul 02, 2003@24:00         | 0900  |      |      |      |
<<SALICYLIC ACID 2/SULFUR 2% SHAMPOO>>
       Give: SHAMPOO TOPICAL QD FILL ON REQUEST
    Provider: PHARM,STAFF1
```

```
RPh/Entry by: PHARM,STAFF1
 Verified by: NURSE,VOLUNTEER
     Order #: 38U         Type: UNIT DOSE
       Status: CM~finished/verified by pharmacist(active)
BCMA MEDICATION LOG HISTORY (since Jun 03, 2003)
 No Medication Log entries are on file for this order.
-------------------------------------------------------------------------------------------


|           SIGNATURE/TITLE           | INIT  | INJECTION SITES (Right or Left)      VA FORM  10-2970
|_____ |_____ | 1. DELTOID           4. MED (ANTERIOR) THIGH  7. ABDOMEN
|_____ |_____ | 2. VENTRAL GLUTEAL   5. VASTUS LATERALIS      8. THIGH
|_____ |_____ | 3. GLUTEUS MEDIUS    6. UPPER ARM             9. BUTTOCK
|_____ |_____ |10. UPPER BACK       PRN: E=Effective  N=Not Effective
```

Contingency PC Workstation Reports

Print Blank MAR for Selected Patient

Blank 3 Day MAR for Selected Patient

```
MAR Ran: Apr 30, 2003@09:47:30    Inpatient Pharmacy Orders (Backup)                     Page:    1
PATIENT,TEST                   SSN: 222334444   DOB: Mar 29, 1935   Sex: M
Ward: TICU-CO                  Room: 656        Bed: 8
            BCBU Record Last Updated: Apr 30, 2003@09:38:46
Allergies: CIPROFLOXACIN
                                             Admin      APR     MAY
  Order      Start            Stop           Times      30      1     2      Notes
---------------------------------------------------------------------------------------------------
_____|_____|_____        |          _____ _____ _____
                                                  |          _____ _____ _____
                                                  |          _____ _____ _____
                                                  |          _____ _____ _____
    RPH Verify:_____   Nurse Verify:_____
---------------------------------------------------------------------------------------------------
_____|_____|_____        |          _____ _____ _____
                                                  |          _____ _____ _____
                                                  |          _____ _____ _____
                                                  |          _____ _____ _____
    RPH Verify:_____   Nurse Verify:_____
---------------------------------------------------------------------------------------------------
_____|_____|_____        |          _____ _____ _____
                                                  |          _____ _____ _____
                                                  |          _____ _____ _____
                                                  |          _____ _____ _____
    RPH Verify:_____   Nurse Verify:_____
---------------------------------------------------------------------------------------------------
_____|_____|_____        |          _____ _____ _____
                                                  |          _____ _____ _____
                                                  |          _____ _____ _____
                                                  |          _____ _____ _____
    RPH Verify:_____   Nurse Verify:_____
---------------------------------------------------------------------------------------------------
_____|_____|_____        |          _____ _____ _____
                                                  |          _____ _____ _____
                                                  |          _____ _____ _____
                                                  |          _____ _____ _____
    RPH Verify:_____   Nurse Verify:_____
---------------------------------------------------------------------------------------------------
|       SIGNATURE/TITLE       | INIT |        INJECTION SITES        | MED/DOSE OMITTED |  REASON  |
|-----------------------------|------|-------------------------------|------------------|----------|
|                             |      |    Indicate RIGHT (R) or LEFT (L)                |          |
|                             |      |    (IM)              (SUB Q)   |                  |          |
|                             |      | 1. DELTOID         6. UPPER ARM|                  |          |
|                             |      | 2. VENTRAL GLUTEAL 7. ABDOMEN  |                  |          |
|                             |      | 3. GLUTEUS MEDIUS  8. THIGH    |                  |          |
|                             |      | 4. MED (ANTERIOR) THIGH 9. BUTTOCK|               |          |
|                             |      | 5. VASTUS LATERALIS   10. UPPER BACK|             |          |
|                             |      |    PRN: E=Effective  N=Not Effective|            |          |
```

Contingency PC Workstation Reports

Blank 7 Day MAR for Selected Patient

```
MAR Ran: Apr 30, 2003@09:47:17   Inpatient Pharmacy Orders (Backup)                    Page:  1
PATIENT,TEST                     SSN: 222334444   DOB: Mar 29, 1935   Sex: M
Ward: TICU-CO                    Room: 656        Bed: 8
         BCBU Record Last Updated: Apr 30, 2003@09:38:46
Allergies: CIPROFLOXACIN
                                              Admin      APR    MAY
   Order       Start              Stop        Times      30    1    2    3    4    5    6      Notes
----------------------------------------------------------------------------------------------------
  _____|_____|_____           |    _____
                                                     |    _____
                                                     |    _____
                                                     |    _____
                                                     |    _____

     RPH Verify:_____      Nurse Verify:_____
----------------------------------------------------------------------------------------------------
  _____|_____|_____           |    _____
                                                     |    _____
                                                     |    _____
                                                     |    _____
                                                     |    _____

     RPH Verify:_____      Nurse Verify:_____
----------------------------------------------------------------------------------------------------
  _____|_____|_____           |    _____
                                                     |    _____
                                                     |    _____
                                                     |    _____
                                                     |    _____

     RPH Verify:_____      Nurse Verify:_____
----------------------------------------------------------------------------------------------------
  _____|_____|_____           |    _____
                                                     |    _____
                                                     |    _____
                                                     |    _____
                                                     |    _____

     RPH Verify:_____      Nurse Verify:_____
----------------------------------------------------------------------------------------------------
  _____|_____|_____           |    _____
                                                     |    _____
                                                     |    _____
                                                     |    _____
                                                     |    _____

     RPH Verify:_____      Nurse Verify:_____
----------------------------------------------------------------------------------------------------
|        SIGNATURE/TITLE        | INIT |     INJECTION SITES      | MED/DOSE OMITTED |   REASON   |
|-------------------------------|------|--------------------------|------------------|------------|
|                               |      |  Indicate RIGHT (R) or LEFT (L)             |            |
|                               |      |                          |                  |            |
|                               |      |   (IM)            (SUB Q) |                  |            |
|                               |------|1. DELTOID      6. UPPER ARM|                |            |
|                               |------|2. VENTRAL GLUTEAL 7. ABDOMEN|               |            |
|                               |------|3. GLUTEUS MEDIUS  8. THIGH |                |            |
|                               |------|4. MED (ANTERIOR) THIGH 9. BUTTOCK|          |            |
|                               |------|5. VASTUS LATERALIS  10. UPPER BACK|         |            |
|                               |      |  PRN: E=Effective  N=Not Effective|        |            |
```

Contingency PC Workstation Reports

List of Wards in BCMA Backup File

```
Select BCMA Backup System (Wrkstn) Option: WL  List of Wards in BCMA Backup
File
Wards with BCMA Backup Data on this workstation:

    10W
    2B APCU
    3E GEM
    3E SUBACUTE
    3W GS
    3W ORTHO
    4 MED
    4 SURG
    4E ENT
    4E M
    4E ON
    MICU
    TICU
```

Trouble Shooting Guide

The messages are building on the VISTA side, but I see an open fail in the link monitor.

Check the following areas:
The IP address on both and make sure they match.
The Port numbers on both and make sure they match.
The Fire Wall on the Linux Workstation.
The Filers on the PC Workstation
The Link Manager on the Workstation.

The messages appear to be transmitting but no data is filing on the workstation.

Verify that the HL COMMUNICATION SERVER PARAMETERS field, "DEFAULT PROCESSING ID" is set correctly. This field must match the value of the sending VISTA system. In addition, verify that INCOMING and OUTGOING HL7 filers are running on the workstation.

I don't see the message queue increase for my HL7 link when I run the 'Initialize Workstation" option or during activity on the VISTA side?

The following two places need to be checked:

Make sure the Link is enabled on the VISTA side. [HL MAIN MENU HL7 Main Menu]
Make sure the Workstation Link is associated to the correct division or Default parameter. [XPAR MENU TOOLS General Parameter Tools Option]

I'm able to start TaskMan up with the Taskman_start script, but I notice that the HL7 link jobs do not start. What could be the problem?

Linux requires root privs to start listener jobs on TCPIP ports. TaskMan needs to be started by the root user so its submanagers (which start the listener) can have those privs as well. To do this, login as the BCMA Manager the issue the command "su –m" and enter the root password. Once you're logged in as root, start TaskMan by issuing the command "./taskman_start". The HL7 link manager and the listener link should start automatically. NOTE: Netmail startup has root requirements as well.

Running the netmail_start script does not start netmail. What could be the problem?

Linux requires root privs to start listener jobs on TCPIP ports. To start up the network mail listener job, log in as the BCMA Manager, then issue the command "su –m" and enter the root password. Once you're logged in as root, start network mail by issuing the command "./netmail_start". NOTE: HL7 links have root requirements as well.

Trouble Shooting Guide

How can I verify the TCPIP listening jobs on Linux?

As root, issue the "netstat –tlp" command. This will provide information similar to the following:

```
Proto Recv-Q Send-Q Local Address        Foreign Address       State      PID/Program name
tcp       0      0 *:32768              *:*                   LISTEN     523/rpc.statd
tcp       0      0 BCMA.med.va.gov:32769 *:*                  LISTEN     628/xinetd
tcp       0      0 *:printer            *:*                   LISTEN     658/lpd Waiting
tcp       0      0 *:sunrpc            *:*                   LISTEN     504/portmap
tcp       0      0 *:10000             *:*                   LISTEN     1174/mumps
tcp       0      0 *:5904              *:*                   LISTEN     13884/Xvnc
tcp       0      0 *:x11               *:*                   LISTEN     813/X
tcp       0      0 *:ftp               *:*                   LISTEN     628/xinetd
tcp       0      0 *:ssh               *:*                   LISTEN     614/sshd
tcp       0      0 *:telnet            *:*                   LISTEN     628/xinetd
tcp       0      0 *:smtp              *:*                   LISTEN     1390/mumps
```

Ports of primary interest are 10000 (HL7 listener link) and smtp (port 25-netmail).

To see the numeric ports for common TCPIP protocols, issue the "netstat –tlp – numeric" command.

What is the best way to shut GT.M down?

$HOME of the BCMA manager account contains the script zgstop. This script is customized to shutdown the BCMA configuration cleanly and run the GT.M database down (to ensure database integrity). To use this script properly, it must be run as root (the BCMA manager will not be able to shutdown HL7 link, netmail and TaskMan jobs started as root - this will prevent the database to rundown properly). To do this, login as the BCMA manager then issue the command "su -m" and enter the root password. Once you're logged in as root, issue the command './zgstop'.

How do I start GT.M up?

There is no single GT.M daemon. This means that each GT.M process 'starts' GT.M for itself. GT.M processes (TaskMan, netmail, HL7 jobs) should start automatically with a system reboot provided the /etc/init.d/gtm script was enabled when BCMA was installed using the install_bcma script.

From within GT.M, how can I view system status (like when I D ^%SS in Cache)?

GT.M does not provide a utility of it's own to provide this functionality. However, SD&D have provided the ^ZSY routine to accomplish this. As with other BCMA tasks, it is best to run this as the root user otherwise not all process information will be accessible. To do this, login as the BCMA manager then issue the command "su -m" and enter the root password. Drop into GT.M, issue the ZSY command as follows, and select the type of display desired:.

GTM>D ^ZSY

1 pid

2 cpu time
3 image/pid
4 image/cpu
1// 1
INTRPT issued to process 1409
INTRPT issued to process 1148
INTRPT issued to process 1390
INTRPT issued to process 1315
INTRPT issued to process 1307
INTRPT issued to process 1295
INTRPT issued to process 1291
INTRPT issued to process 1239
INTRPT issued to process 1229
INTRPT issued to process 1225
INTRPT issued to process 1222
INTRPT issued to process 1216
INTRPT issued to process 1213
INTRPT issued to process 1189
INTRPT issued to process 1179
INTRPT issued to process 1177
INTRPT issued to process 1174
INTRPT issued to process 1157
INTRPT issued to process 1145

```
GT.M Mumps users on 18-Mar-03 11:11:10

Proc. id Proc. name       PS  Terminal Routine              Mode   CPU time
-------- --------------- --- -------- --------              ------
1145     TaskMan VISTA 1 S   ?        IDLE+1^%ZTM           -direct
1148                     S   pts/2                          -direct
1157     HLmgr:538       S   ?        LOOP+3^HLCSLM         -direct
1174     HLSrv:182       S   ?                              -direct
1177                     S   ?        SUB+1^%ZTMS1          -direct
1179     BTask 546       S   ?        STARTIN+17^HLCSIN     -direct
1189     BTask 545       S   ?        STARTIN+17^HLCSIN     -direct
1213     BTask 547       S   ?        STARTOUT+16^HLCSOUT-direct
1216     BTask 548       S   ?        STARTOUT+16^HLCSOUT-direct
1222     BTask 550       S   ?        STARTIN+17^HLCSIN     -direct
1225     BTask 551       S   ?        STARTIN+17^HLCSIN     -direct
1229     BTask 552       S   ?        STARTOUT+16^HLCSOUT-direct
1239     BTask 553       S   ?        STARTOUT+16^HLCSOUT-direct
1291     Sub 1291        S   ?        GETTASK+3^%ZTMS1      -direct
1295     Sub 1295        S   ?        SUB+1^%ZTMS1          -direct
1307     Sub 1307        S   ?        GETTASK+3^%ZTMS1      -direct
1315     Sub 1315        S   ?        SUB+1^%ZTMS1          -direct
1390                     S   ?                              -direct
1409                     S   pts/3    jobset+4^ZSY          -direct
```

Trouble Shooting Guide

I'm getting <RECOMPILE> errors when working on the Cachè system.

If you are getting this error, the routines need to be recompiled on the workstation. There are two different methods you can use to accomplish this.

CHUI
1. Get to the programmer prompt on the workstation
2. D ^%RCOMPIL
3. At the routine selection prompt select %*, hit enter
4. Repeat the D ^%RCOMPIL command and select * at the routine selection prompt

GUI
1. Right click on the Cache cube and select Explorer
2. On the left side of the screen expand **V**ISTA under the Local Databases, select routines
3. In the routine selection box enter %*
4. From the Edit menu click on Select All
5. In the Contents screen on the right, right click, click Advanced/Compile
6. Repeat step 3-5 selecting * in the routine selection